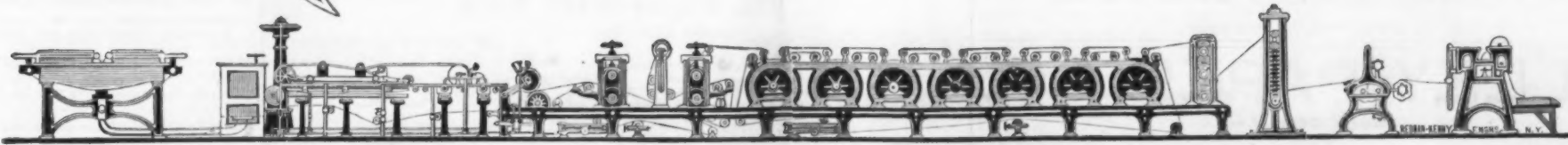


THE PAPER TRADE JOURNAL.



"The Consumption of Paper is the Measure of a People's Culture."

VOLUME XIV.—NO. 14.

NEW YORK, APRIL 4, 1885.

WHOLE NUMBER 570.

Trade Topics.

A Paper-Making Primer.

Q. What becomes of the soda which has been employed to reduce the wood to fibre?

A. It has been heretofore stated that "the treatment which the different kinds of wood require is alike, except in degree." It should also have been said that the description to be given would be of the treatment suitable to the "popple," or white poplar wood, and that all statements of quantities given in the description would be based on the requirements of that kind of wood. The soda remains in the solution, but combined with the acids of which the incrustating matter in the wood is mainly composed.

Q. What means are employed to recover the soda from the solution and combination?

A. The first step is to separate the solution from the mass of fibre, and although this has already been fully considered, it is thought expedient to refer to it again, inasmuch as it is the most important factor in the question of economy in the recovery of the soda. The result to be aimed at is to extract the solution from the fibre in the most concentrated form possible. In practise, two methods are employed, the first being simply drainage. The contents of the digester are emptied into a tank having a perforated false bottom, through which the liquid is allowed to drain into a well or tank, and from thence it is removed by a pump to a tank convenient to the evaporator. The objection to this plan is that, when the solution is reduced to, or below, the boiling point, it becomes somewhat thicker or heavier, and therefore cannot drain out of the fibre so thoroughly as when it is maintained at a higher temperature; hence a larger quantity of hot water is required for the purpose of drenching the fibre, to thereby extract the soda from it, and every gallon of water which is added to the solution must be evaporated from it by the consumption of fuel and time. But there are other objections. Two tanks are provided—one for the strong liquor, which is ready for the evaporator, and another for the weak liquor, which is used for the first drenching which the fibre receives. Now, through carelessness or inadvertence, or perhaps on account of a hopelessly-complicated system of pipes and valves, leaky or otherwise, it is difficult to keep the contents of the tanks separate. Sometimes the weak liquor will be run into the strong liquor tank, or at another time, the strong will be used by mistake to drench the fibre with, and sometimes it will be run into the weak liquor tank, or the weak liquor will be found running into the tank intended for the strong liquor, while considerable quantities are lost by reason of leaking pipes, valves and pumps. In practise, these are some of the reasons why it has in some instances been unprofitable to manufacture chemical wood fibre, and which have made the recovery of the soda an unprofitable affliction. The second method is to provide a fine strainer of sufficient capacity and suitably placed inside of the digester. This strainer is connected to a blow-off pipe, controlled by a valve; the valve being opened, the pipe conveys the steam and liquor to the tank, near to the evaporator. The violence with which the steam and liquor are delivered in the tank is diminished by extending the blow-off pipe across the top of the tank and that portion of the pipe which extends across the top of the tank is perforated on its lower side with a row of holes one-quarter of an inch in diameter and three-quarters of an inch apart. The end of the pipe being stopped with a cap or plug, the steam and liquor are discharged through the holes, and the violence of the discharge is thereby greatly lessened. By this means the liquor is forced out of the fibre by the steam pressure, and is delivered at full strength convenient to the evaporator, and only one tank is employed, viz., that to hold the weak liquor which is used for the first wash given to the fibre while it is yet in the digester. This, the second method, is recommended, because a definite quantity of liquor of a known strength can be secured from the contents of each digester with the greatest exactness and

regularity, and, in consequence, the work to be done by the evaporator can be exactly regulated. The extent and plan of the apparatus employed to evaporate and calcine the spent liquor must be adapted to the quantity and strength of the liquor subject to treatment. If two rotary digesters are used, and are managed according to the directions given in these papers, there will be 3,500 gallons of spent liquor obtained from each digester every time that it is emptied. Allowing sixteen hours to each will give three digesters every twenty-four hours, which will yield 10,500 gallons of spent liquor at about 7°. It is therefore necessary to provide a furnace of a capacity sufficient to recover the quantity of soda which this amount of spent liquor represents.

Q. What style of evaporating and calcining furnace gives the best result?

A. Many attempts have been made to improve upon the plain, old-fashioned calcining furnace and evaporating pans, but it is doubtful if any better results have been obtained. True economy lies in the direction: 1. Of saving the liquor in as strong a condition as possible, and of losing none of it by leakage; 2. In making the apparatus of sufficient capacity to do the amount of work required without unduly crowding it; 3. To make the calcining furnace small, and to provide ample means for evaporation; 4. To draw charges frequently, say, every six hours, because, by so doing, the heat from the burning soda is utilized to its full extent, promoting evaporation. Many furnaces are made extremely long, and are run twenty-four hours, some of them even forty-eight hours, and only one charge is drawn from them in that time. This is extremely bad economy, because extra help is required for a few hours while the charge is being drawn, and the heat from the great mass of burning soda is intense, and as it is more than can be employed usefully for evaporating purposes, it is, therefore, a total loss. It is extremely provoking to see six men employed to draw a charge from one of these furnaces. Four of the men work on one side and two on the other side of the furnace, and nearly all of the doors on both sides being kept open the draft is hindered, and the heat which ought to pass through the flue to the chimney, and evaporate the liquor on its way, escapes at the open doors and is worse than lost, because it overheats and hinders the men who are at work. Two men can manage a small furnace and draw the charges, and while the charge is being drawn not more than two of the doors need to be open at a time. In this case the draft is not interfered with and the combustion of the soda goes on, and needs only a little assistance from the coal furnace; the heat is not excessive and passes regularly through the flue to the chimney, doing its full amount of work in evaporation. A soda reclaimer, consisting of a furnace 6 feet wide and 5 feet long, to provide the heat; a calcining furnace, 6 feet wide and 16 feet long, in which to burn the soda; an evaporating pan, 10 feet wide, 30 feet long and 18 inches deep, and two or more storage tanks, 10 feet in diameter and 10 feet deep, provided with pipes and circulating pump to keep the liquor moving and warm, thus maintaining a constant evaporation, will evaporate and calcine the soda from spent liquor which the two rotary digesters will yield, and will produce from 6,000 to 6,500 pounds of soda with the labor of two men.

Production of Sulphurous Acid.

Solutions of sulphurous acid and sulphites and bisulphites of alkaline earths have been produced to be employed in the production of pulp by burning sulphur compounds with the oxygen of the air, and conducting the sulphurous-acid gas produced upward through a tower or vertical column containing suitable material to diffuse the gas when it is brought into contact with water or alkaline solutions passing down over the diffusing material.

The drawings illustrate a new form of apparatus for producing sulphurous acid or solutions containing sulphurous acid or sulphite or bisulphite or other solutions or other salts, without employing condensing towers or columns. The process consists in burning sulphur or pyrites or spent oxide of iron or other suitable sulphur compounds in strong enclosed

the complete apparatus. A represents a blowing-engine to blow air with sufficient force through suitable vessels, B containing sulphur or sulphur compounds. As the air comes in contact with the sulphur under considerable pressure (after the sulphur has become ignited by applying a red-hot iron internally, or by other suitable means within the vessel) no external heat is needed, but the vessel is required to be immersed in water to prevent the heat becoming too great, or sublimation would take place, which would stop and spoil the working of the process. The gases then pass through pipes cased with suitable jackets, B', containing water to cool the gases as they are conveyed forward. The gases are then conveyed by the pipes, C, into suitable vats or vessels, E, in which are fixed vertical agitators, H, to keep the liquor or sediment in motion to be more readily acted upon by the passing gases. The vats are connected together at the bottom by passages with stop-taps, S, which are always kept closed while the process of blowing the gases is in operation. A pipe with a tap, T, is a means of inlet for the solutions required to be acted upon in the vats. By the regulation of the taps of the passages, S and T, the liquor can be regulated, as desired, in the vats when the process of blowing is stopped. Before the process of blowing is commenced the vats are filled considerably above the opening of the inlet-pipes, C, so that the gases have to pass through this head of pressure of solution.

On the last vessel is an outlet-pipe, D, to carry away the waste gases. Upon each vat or vessel is placed a gauge-glass, G, with suitable taps to show the height of the solutions in the vats, and from which samples can be readily taken to show when the solutions are saturated. When the solution in vat No. 1 becomes sufficiently saturated, the blowing is discontinued and the contents of vat No. 1 are emptied to be used for the purpose required. After No. 1 vat is emptied the taps are opened and all of the vats are filled to a convenient height, the blowing being continued until the first vat is again saturated, and thus the process being continued as desired. The gases pass from vat I to vat II, and then to vat III, and through as many other vats in like manner as may be found sufficient to absorb the sulphurous acid gases, and at the last vat the waste gases pass through the exit-pipe D to a chimney or other means of exit.

A process of making sulphurous-acid liquors has heretofore been devised in which the sulphur or pyrites is burned by means of air under pressure in a close retort provided with a water-jacket, and the sulphurous acid produced is afterward and while still under pressure delivered into the bottom of a tower filled with gravel or its equivalent that is continually kept wet with the absorbing liquid; but this process is essentially different from this invention, in which the mixed sulphurous gases from the combustion of the sulphur or pyrites are not absorbed in a tower by a liquid trickling over gravel, but are delivered below the surface of a body of absorbing liquid in one or a series of vessels, wherein the sulphurous acid is dissolved, the solution being assisted by the agitation of the liquid. In this invention the pressure in the retort, which is caused by the blower, and is consequently independent of the reaction for producing the sulphurous acid, is sufficient to overcome the back pressure of the liquid through which the mixed

sulphurous gases from the retort have to pass. In the other process referred to the pressure in the absorbing vessels is maintained by cocks and valves, and the sulphurous gases do not pass through a large body of liquid, but meet the thin streams of liquid filtering over the gravel in the tower.

Paper Makers' Cotton Drying-Felt.

A cotton drying-felt for covering paper makers' rollers or cylinders which shall be as even at the joint (where the two ends of the fabric are joined together) as at the other part of the surface, and thus present no obstacle to the paper or pulp in passing over the same, is made by weaving the parts of which the joining is composed half the thickness of the other part, or opposite sides of the fabric, so that when the two half-thicknesses are laid together one over the other and the warp ends are spliced by quilting or sewing together therewith the two half-thicknesses so laid together, a flush and even joining is obtained, the joint being exactly equal in thickness to the other part of the felt.

In producing the fabric an ordinary loom containing twelve heddles is used.

In starting a piece of the fabric the weaving is begun with half the number of heddles—say, those at the back of the loom, corresponding with what may be termed the "face" of the fabric. This is continued until six inches (more or less) of the fabric have been woven of the half thickness so produced. Then all of the heddles are operated, so as to produce the full thickness of the material until the required length is produced. The other half of the heddles—say, those at the front of the loom, corresponding with the face of the fabric—are then stopped off, and another six inches (more or less) of half-thickness is woven, and in taking the piece from the loom a short length of unwoven warp-threads is left attached at each end of the piece. The half-thickness ends are now laid together, and securely united in the act of stitching in the protruding warp-threads.

By this means a joining is effected without tying the warp-ends together, and which dispenses with all knots and other projections.

It will be apparent that this is equally applicable to seaming together the ends of printers' machine-blankets and other endless machinery cloths.

Manufacture of Paper Barrels.

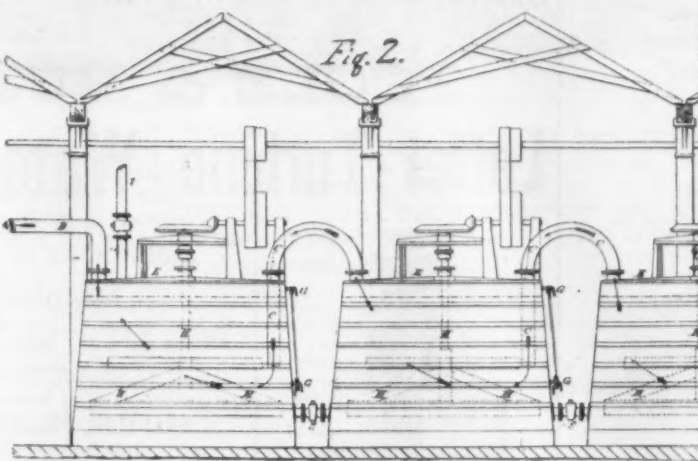
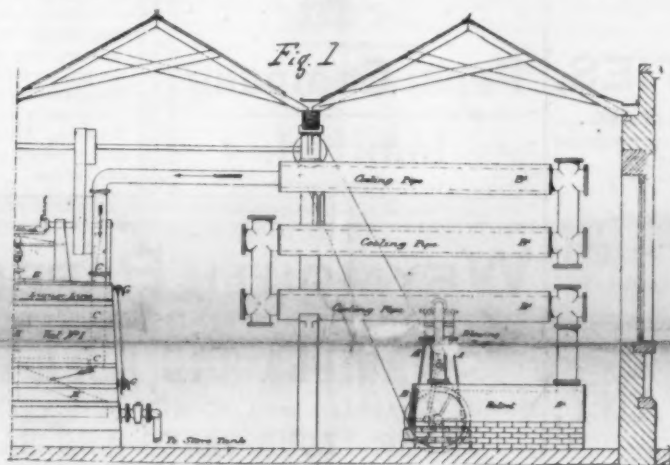
A new method of manufacturing paper barrels capable of resisting considerable pressure and of holding the heads strongly and firmly in place is claimed to be effective in operation.

The barrels are made by winding or forming upon a suitable core the body or shell of the vessel of a determined thickness of the paper or other material, which is provided with an adhesive substance, cutting rings or strips at or near the ends of the body, and leaving the cut rings or strips unprovided with the adhesive substance for the space of one revolution, the paper or other material continuing the winding or forming of the material supplied with an adhesive substance, removing the cut ring or strip to the depth of the portion free from the adhesive substance, placing heads provided at their contact-points with an adhesive substance into the receiving-openings thus produced, and replacing the rings or strips provided with an adhesive substance.

Sheathing and Roofing Papers.

A patent has been granted for a sheathing paper made from a pulp composed of spent tan-bark, meadow-hay and mill-waste, covered on both sides with a layer of pulp composed of cotton or linen rags, waste papers, or a mixture of similar materials. This is said to make a strong and smooth paper.

A roofing paper is made in the same manner, using the same "middle," but making the exterior coating from a pulp composed of satinet rags, colors, shoddy and straw.



APPARATUS FOR PRODUCING SULPHUROUS ACID.

vessels, into which, after igniting the sulphur or its compounds, air is forced by any suitable mechanical means, such as an air-pump or fan of sufficient power to drive the sulphurous acid gas through suitable pipes or connections into a vessel or series of vessels containing water or solutions of alkalis or alkaline earths, with which it is desired the gas shall be brought into contact for the purpose of obtaining products containing sulphurous acid; or, when preferable, the air or gas is forced forward by suction by suitably placing the air-pump or fan for that purpose. In all cases a low temperature is maintained in the retort sufficient to prevent the volatilization of the sulphur, and this is done by surrounding with water the vessel or vessels in which the sulphur is burned and the pipes or connections carrying the sulphurous gas, for the purpose of reducing the temperature of the same. Complete control is maintained over the sulphurous acid gas, the gas being conveyed to a distance down below the surface of the liquor or solutions or materials in the vessel or series of vessels, the pressure forcing the same through the contents of the said vessel or vessels. The gas or solutions of it or sulphite or bisulphite solutions or other salts or mixtures of them may be prepared of any strength and in any quantities desired for employment in the treatment of pulp, or for other purposes.

Figures 1 and 2 taken together show in ele-

WINONA PAPER CO.

HOLYOKE, MASS.,

MANUFACTURERS OF ENGINE SIZED

Flat and Envelope Papers

AND SUPER-CALENDERED BOOK PAPER.

B. F. HOSFORD, Treasurer.

VALLEY PAPER CO.

—MANUFACTURERS OF—

LOFT DRIED PAPERS

AND FINE LINEN PAPER
OF EVERY DESCRIPTION.

HOLYOKE, MASS., U. S. A.

ALBION PAPER COMPANY,

Holyoke, Mass.,

Manufacturer of Machine and Super-Calendar

BOOK PAPER,

—ALSO—

ENGINE-SIZED FLAT PAPER.

EDWARD C. TAFT, TREASURER.

CROCKER MFG. CO.,

ENGINE SIZED

FLAT CAPS and SPECIALTIES,

D. P. CROCKER, Treasurer and Agent.

HOLYOKE, MASS.

EDWIN BUTTERWORTH & CO.,

MANCHESTER, ENGLAND,

Dealers in all kinds of Paper Stock and Manufacturers of Buffalo Sizing,
PACKERS OF 83 GUNNY BAGGING.

OFFICE IN NEW YORK:

No. 5 Beekman Street, Temple Court.

It is requested that orders be sent to above address
JAMES PIRNIE, Manager.

ESTABLISHED 1729 AT IVY MILLS, DELAWARE CO., PA.

JAMES M. WILLCOX & COMPANY,

Wholesale Commission Paper and Rag Warehouse.

509 MINOR STREET, PHILADELPHIA, PA.,

PROPRIETORS OF GLEN MILLS, DELAWARE CO., PA.,

Manufacturers of Bank Note, Bond and Parchment Papers, and
All-Rag Music and Machine-Finished Book Papers.

WAUREGAN PAPER CO.

MANUFACTURERS OF



SUPERFINE BOOK & E. S. FLAT WRITINGS.

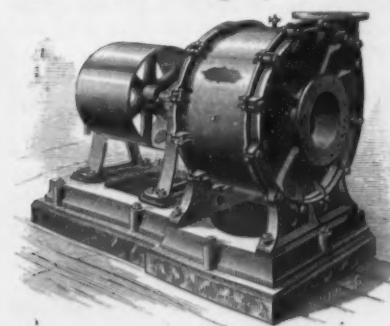
JAMES H. NEWTON, Pres't & Treas.

HOLYOKE, MASS.

—THE IMPROVED—

"CATARACT" CENTRIFUGAL PUMP FOR PAPER MAKERS.

The Most Simple, Durable and Efficient now in use.



SPECIALLY DESIGNED AND BUILT FOR
Pumping all kinds of Foreign Material,
such as Paper Pulp, Tan Bark, Half Stuffs,
Coal, Stones, Clay, &c., and any other substance
susceptible of suction, and of a size nearly
equal to the diameter of pipe without
choking or injury.

ECONOMY OF POWER! LOW SPEED!
SAVING OF SPACE

An experience of over 25 years in the design
and construction of Centrifugal Pumping
Machinery has enabled us to produce the
"CATARACT" as a PERFECT PUMP.

Sizes manufactured from 200 to 60,000 gallons
per minute.
COMPLETE PUMPING OUTFITS,
ranging from 200 to 7,000 gallons per minute,
kept in stock, ready for immediate shipment.
For further particulars, address the Manu-
facturers,

JOSEPH EDWARDS & CO., 414 Water Street, New York.

DICKINSON & CLARK PAPER CO.,

GEO. R. DICKINSON.

J. E. CLARK.

HOLYOKE, MASS.,

—MANUFACTURERS OF—

Machine Super-Calendar Book & Envelope Papers
and Engine-Sized Flats.

Correspondence Solicited.

Samples on Application

H. E. PRATT & CO.,

MORSE BUILDING, cor. Nassau and Beekman Sts., New York,

AGENTS FOR PAPER MANUFACTURERS

Bill and Ship all Orders Direct from Mills. Correspondence Solicited with
Manufacturers and Jobbers.

A. G. ELLIOT & CO., J. C. DITMAN & CO.,

SUCCESSORS TO

30, 32 & 34 South Sixth Street, Philadelphia.

BEING AGENTS FOR ALL THE LEADING MANUFACTURES, OUR STOCK IS UNEXCELLED
AND FACILITIES ARE AMPLE TO EXECUTE ORDERS PROMPTLY.

AMERICAN ULTRAMARINE WORKS.

HELLER & MERZ,

MANUFACTURERS OF

ULTRAMARINE,

Especially for Paper Manufacturers.

FUCHSINE, EOSINE AND VIOLET ANILINES.

No. 55 MAIDEN LANE, NEW YORK.

: : Scott : :
: : Paper Company : :
: : Limited. : :
27 North Sixth Street, Philadelphia.

Rope Manila Papers for Flour-Sacks, Cotton
Sampling, Box Makers, etc. Blue and White
Glazed Boards; Manila Glazed Pattern Boards.
Waterproof Building Papers; Elastic Carpet
Lining, and a full assortment of Manila, Straw
Wrapping, Tissue and White Papers, of all
grades, colors, weights and sizes. Paper Bags
and Twines. WRITE FOR SAMPLES

WEYMOUTH PAPER MILLS,

—MANUFACTURERS OF—

MANILLA AND ROPE PAPERS.

Sand, Cartridge and Red Building Paper a Specialty.

PAPER FLOUR SACKS AND BANANA BAGS

OF ALL SIZES, MADE TO ORDER.

OFFICE: Room 11, TEMPLE COURT, NEW YORK CITY.

POOLE & HUNT'S Leffel + Turbine + Water + Wheel,



MADE OF BEST MATERIALS AND IN THE
BEST STYLE OF WORKMANSHIP.

Machine-Molded MILL GEARING,

From 1 to 20 feet diameter, of any desired face or pitch,
molded by our own special machinery.

SHAFTING, PULLEYS AND HANGERS.

Of the latest and most improved designs.

STEAM ENGINES, BOILERS, MIXERS AND GENERAL
OUTFITS FOR FERTILIZER WORKS.

Shipping facilities the best in all directions.

POOLE & HUNT, Baltimore, Md.

N. B.—Special attention given to Heavy Gearing.

CORRUGATED

* IRON *
ROOFING
SIDING, CEILING,
ARCHES AND LATH.
© CINCINNATI ©
CORRUGATING CO.
+ CINCINNATI, O. +
SEND FOR ILLUSTRATED CATALOGUE.

CRIMPED

THEODORE PINKHAM, Straw Boards,

And Agent for ANDROSCOGGIN PULP CO.'S

WHITE BOX BOARDS,

52 Elm and 24 Friend Streets,

CORRESPONDENCE SOLICITED.

BOSTON, MASS.

Paper Making and Its Accessories.

BOOKS OF REFERENCE.

THE following is a list of Books of Reference on
subjects connected with Paper Making, Chemi-
cals, Colors, Machinery, Hydraulics, &c.:

AUERBACH.—Anthracen: Its Constitution, Properties, Manufacture and Derivatives. 8vo.....	35 00
BAIRD.—Standard Wages Computing Tables. Folio.....	5 00
BENSON.—Principles of the Science of Color. 4to.....	7 50
BENSON.—Manual of the Science of Color. 12mo.....	1 00
BESANT.—A Treatise on Hydro-Mechanics. 8vo.....	5 00
BOX.—A Practical Treatise on Heat as applied to the Useful Arts. Illustrated by 14 plates 12mo.....	5 00
BOX.—A Practical Treatise on Mill-Gearing. 12mo.....	3 50
BOX.—Practical Hydraulics. 12mo.....	2 50
BRESSE.—Hydraulic Motors. 8vo.....	2 50
BROWN.—Five Hundred and Seven Mechanical Movements. 12mo.....	1 00
CALVERT.—Dyeing and Calico Printing, In- cluding an Account of the Most Recent Im- provements in the Manufacture and Use of Aniline Colors. With dyed Patterns. 8vo. 12mo.....	8 00
CHEVREUL.—The Principles of Harmony and Contrast of Colors and their Application to the Arts. Illustrated with Colored Plates. 12mo.....	3 00
COOPER.—A Treatise on the Use of Belting for the Transmission of Power. 8vo.....	3 50
CORFIELD.—Water and Water Supply. 16mo..	50
CROOKES.—Handbook of Dyeing and Calico Printing. With dyed Patterns. 8vo.....	15 00
CULLEN.—Practical Treatise on the Construc- tion of Horizontal and Vertical Water Wheels. Quarto.....	5 00
DOWNING.—The Elements of Practical Hy- draulics. 8vo.....	2 75
DUNBAR.—The Practical Paper Maker.....	1 00
FAIRBAIRN.—The Principles of Mechanism and Machinery of Transmission. 12mo.....	2 50
FAIRBAIRN.—A Treatise on Mills and Mill work. 2 vols. 8vo.....	10 00
FANNING.—A Practical Treatise on Water-Sup- ply Engineering. 8vo.....	5 00
FRANCIS.—Lowell Hydraulic Experiments on Hydraulic Motors. Quarto.....	15 00
FRESENIUS.—Manual of Qualitative Chemi- cal Analysis. 8vo.....	3 50
FRESENIUS.—System of Instruction in Quan- titative Chemical Analysis.....	6 00
GLYNN.—A Treatise on the Power of Water. 12mo.....	1 00
HERRING.—Paper and Paper Making, Ancient and Modern. Plates. 8vo.....	3 75
HOFMANN.—A Practical Treatise on the Manu- facture of Paper in all its Branches. Quarto. 300 pp.....	30 00
JACKSON.—Hydraulic Manual. 8vo.....	10 00
JACOB.—The Designing and Construction of Storage Reservoirs. 16mo.....	50
ROSCOE.—Lesson in Elementary Chemistry. Inorganic and Organic. 12mo.....	1 10
JOHNSON.—The Practical Draughtsman's Book of Industrial Design and Machinery's and Engineer's Drawing Companion. With over 50 Steel Plates. 4to.....	10 00
KANE.—Elements of Chemistry, including the most recent Discoveries and Applications of the Science to Medicine and Pharmacy, and to the Arts. Illustrated. 8vo.....	1 65
KINGZETT.—The History, Products and Pro- cesses of the Alkali Trade, including the most recent improvements. 8vo.....	2 50
KIRKWOOD.—Report on the Filtration of River Waters, for the Supply of Cities, &c. quarto.....	15 00
KOOPS.—Historical Account of the Substances which have been used to describe Events and to Convey Ideas from the Earliest Date to the Invention of Paper. By Matthias Koops. Printed on Paper Manufactured solely from Straw. London, 1801.....	10 00
KUTTER.—The New Formula for Mean Ve- locity of Discharge of Rivers and Canals. 8vo.....	5 00
LEFFEL.—The Construction of Mill Dams. 8vo.....	50
MUNSELL.—A Chronology of Paper and Paper Making. 8vo.....	2 00
NEVILLE.—Hydraulic Tables, Co-efficients and Formule for finding the Discharge of Water from Orifices, Notches, Weirs, Pipes and Rivers. 12mo.....	6 00
PALLETT.—The Millers, Millwrights and En- gineer's Guide. 12mo.....	2 00
RANKINE.—A Manual of Machinery and Mill- work. 12mo.....	5 00
REID.—A Practical Treatise on Concrete and How to Make It. 12mo.....	2 00
REIMANN.—On Aniline and its Derivatives. 8vo.....	5 50
RIFFAULT.—A Practical Treatise on the Manu- facture of Colors for Painting. 8vo.....	7 50
ROPER.—Use and abuse of the Steam Boiler. By Stephen Roper. Illustrated. 15mo., tucks, gilt edge.....	2 00
ROSE.—The Complete Practical Machinist. 12mo.....	2 50
ROUTLEDGE.—Bamboo, considered as a Paper making Material. 8vo., paper.....	80
SMITH.—The Dyer's Instructor; 800 Receipts. 8vo.....	3 00
SPON.—Workshop Receipts for the use of Manu- facturers and Mechanics. 12mo.....	2 00
SQUIER.—Tropical Fibres; their Production and Economic Extraction. 8vo.....	6 00
GUTTON.—A Systematic Handbook of Volumet- ric Analysis. 8vo.....	5 00
THORPE.—Quantitative Chemical Analysis. 12mo.....	1 75
THORPE AND MUIR.—Qualitative Chemical Analysis and Laboratory Practice. 12mo..	1 50
WATTS' DICTIONARY OF ARTS, MANUFACTURES AND MINES.—By Robert Hunt, F. R. S. Illustrated with nearly 3000 engrav- ings on wood. 1867. 4 vols. 8vo.....	35 00
VON REZOLD.—The Theory of Color in its Re- lation to Art and Art Industry. 8vo.....	5 00
WEISBACH.—Hydraulics and Hydraulic Mo- tors. With 80 Illustrations. 8vo.....	6 00
WAGNER.—A Handbook of Chemical Technol- ogy. Translated and Edited by Wm. Crookes, F. R. S. With 336 Illustrations. 8vo.....	5 00
WATTS.—Dictionary of Chemistry and the Allied Branches of other Sciences. By Henry Watts, F. R. S. With the First and second Supplements, bringing the record of discovery down to 1874. 9 vols. large 8vo.....	100 00

SEND ORDERS TO

HOWARD LOCKWOOD,

Box 3715 P. O., New York.

Rules for Management and Care of Steam Boilers.

ADOPTED BY THE HEWES & PHILLIPS IRON WORKS, NEWARK, N. J.

1. *Condition of Water.*—The first duty of an engineer when he enters his boiler-room in the morning is to ascertain how many gauges of water there are in his boilers. Never unbank or replenish the fires until this is done. Accidents have occurred and many boilers have been entirely ruined from neglect of this precaution.

2. *Low Water.*—In case of low water immediately cover the fires with ashes, or, if no ashes are at hand, use fresh coal. Do not turn on the feed under any circumstance, nor tamper with or open the safety valve. Let the steam outlets remain as they are.

3. *In Cases of Foaming.*—Close throttle and keep closed long enough to show true level of water. If that level is sufficiently high, feeding and blowing will usually suffice to correct the evil. In cases of violent foaming, caused by dirty water, or change from salt to fresh, or vice versa, in addition to the action before stated, check draft and cover fires with fresh coal.

4. *Leaks.*—When leaks are discovered they should be repaired as soon as possible.

5. *Blowing Off.*—Blow off 8 or 10 inches at least once a week; every Saturday night would be better. In case the feed becomes muddy, blow out 6 or 8 inches every day. Never blow entirely off except when boiler needs scraping or repairing, and then not until fire has been drawn for at least ten hours, as boilers are often seriously injured or ruined by being emptied when the walls are hot. Where surface blow cocks are used, they should be often opened for a few moments at a time.

6. *Filling Up the Boiler.*—After blowing down, allow the boiler to become cool before filling again. Cold water, pumped into hot boilers, is very injurious from sudden contraction.

7. *Exterior of Boiler.*—Care should be taken that no water comes in contact with the exterior of the boiler, either from leaky joints or other causes.

8. *Removing Deposit and Sediment.*—In tubular boilers the hand-holes should be often opened, and all collections removed from over the fire. Also, when boilers are fed in front and blown off through the same pipe, the collection of mud or sediment in the rear end should be often removed.

9. *Safety Valves.*—Raise the safety valves cautiously and frequently, as they are liable to become fast in their seats, and useless for the purpose intended.

10. *Safety Valve and Pressure Gauge.*—Should the gauge at any time indicate an excessive pressure, see that the safety valves are blowing off. In case of difference, notify the parties from whom the boiler was purchased.

11. *Gauge Cocks, Glass Gauge.*—Keep gauge cocks clear, and in constant use. Glass gauges should not be relied on altogether.

12. *Blisters.*—When a blister appears, there must be no delay in having it carefully examined, and trimmed or patched, as the case may require.

13. *Clean Sheets.*—Particular care should be taken to keep sheets and parts of boilers exposed to the fire perfectly clean, also all tubes, flues and connections well swept. This is particularly necessary where wood or soft coal is used for fuel.

14. *General Care of Boilers and Connections.*—Under all circumstances keep the gauges, cocks, &c., clean and in good order, and things generally in and about the engine and boiler room in a neat condition.—*Am. Machinist.*

Paper-Pulp Fabric.

The object of this invention is to provide a fabric or material for various purposes, especially for the purpose of making articles which require in their use or which can advantageously possess the characteristics of paper, and at the same time possess the quality of strength in a degree far in excess of that of paper.

Heretofore finished paper in sheets has been applied and secured to sheet metal upon one or both sides thereof; but in such cases the material resulting from such a combination of the substances mentioned has usually been limited in area and outline to that of the article made from such compound material, and in a degree necessarily so by reason of the limited area of the sheet metal to be obtained for association with the paper. Furthermore, in such cases finished paper alone has been combined with strengthening materials, and always with an intervening cement or adhesive agent.

The new fabric or material is produced either in continuous webs or lengths of desired widths, possessing all of the characteristics of paper, and at the same time the strength of metallic materials. This is done by using as the base or foundation of the material a wire-cloth of a desired fineness or coarseness, the outer portions of the material being composed of paper-pulp. The continu-

ous web of wire-cloth is combined with continuous webs of pulp in such manner that the pulp is forced through the meshes of the wire-cloth, and completely envelops and covers the same, so that in outward appearance the material is exactly like that of paper of the same texture and quality, while it is at the same time capable of being rolled into rolls for shipment and transportation, to be unrolled for use in continuous sheets or in parts of sheets which may be cut in any desired shape for the manufacture of desired articles, especially those which can be struck up or formed without seam, while those requiring seams may be provided with the same at desired points, and the parts secured together by paste or cement, as in ordinary paper articles. The perfect union of joints in the material is assured by reason of the fact that all points on its outer surfaces are of pulp. This material is capable of being ornamented by the application of finished paper or other material, or by finishing the surface of the pulp itself, varnishing, painting or treating with any suitable finishing, water-proofing or fire-proofing compound, or in the latter case by combining with the pulp itself asbestos in the usual well-known proportions.

In manufacturing this fabric a paper-making machine is employed, which is constructed and adapted to deliver to any desired point two independent webs or continuous sheets of pulp, at which points these sheets pass through any suitable pressure-rollers, so as to be formed into a single sheet or web. At a point in the machine which is to the rear or back of (in the line of feed) the pressure-rollers are means for supporting the continuous sheet or web or wire-cloth in roll form, and the leading end of the cloth is conducted into, between and through the pressure-rollers, and between the two continuous sheets or webs of pulp passing between them, so that by the pressure-rollers continuous sheets of pulp are compressed against the opposite surfaces and into and through the meshes of the wire-cloth, which may or may not, as desired, be first water-proofed to prevent rusting. After passing through the rolls the fabric is delivered to any suitable drying mechanism, and subsequently from the machine as wire-cloth completely covered and embedded with pulp.

Transfer Paper.

This is a process of treating paper to preserve the cellulose against the corrosive action of acids, and its object is to prepare paper sheets, blocks or pads to be subsequently employed for lithographic or other transfer printing.

It is well known in the art of lithographic printing that water or acids will act as repellents to greasy inks, and on this action have been based the various processes known for reproducing and printing from original drawings, designs or characters, and for transferring such upon stone or other plates.

The process heretofore employed of subjecting the original to the action of an acid which attacks the surface of the paper not protected by the inked lines of the designs, and serves as a repellent to the ink in such places when the surface is rolled up, is well known; but a strong objection to its use and to its successful employment in obtaining numerous and accurate copies, has been the destructive action of the acid upon the cellulose of the paper, destroying its integrity and breaking down the lines from which the impressions are made.

This invention is designed to obviate these objections; and to this end it consists, essentially, in a process of treating paper sheets, blocks or pads to preserve their cellulose and structural integrity against the action of corrosive acids by treating it with glycerine or glycerine solutions preparatory to the transfer of the design, drawing or print.

In carrying out this process, take glycerine one part, water ten parts. Mix these thoroughly and apply to the paper in any convenient manner—as, for instance, by means of a brush or by floating the paper upon a bath of the solution until it is properly saturated with the solution. The paper is then ready for the acid application, which may be applied in the usual or any approved manner.

The glycerine may be diluted with alcohol with good effect to allow the paper to more freely absorb the glycerine.

When the paper is made into blocks or pads, the blocks or pads are saturated with the solution in any convenient manner.

The glycerine, while it affords positive protection to the cellulose of the paper, also tends to keep the paper damp or moist, which is absolutely necessary in the subsequent transfer operation, thus affording an additional and decided advantage to the paper.

A new form of apparatus for determining the compressibility of water has been exhibited by Professor Tait. Instead of measuring the compression caused by a given pressure, he now measures the pressure required to produce a given compression. His new arrangement allows him to make any number of measurements in rapid succession at any one temperature; and then the temperature can be raised and corresponding measurements made without once opening the compression apparatus. Experiments which formerly would have taken weeks for their completion could now be accomplished in an afternoon.

AMERICAN STEAM BOILER Insurance Co.

OF NEW YORK.

Authorized Capital, \$1,000,000
Paid up in Cash, 200,000

\$100,000 are invested in United States Bonds, and deposited with the Insurance Department at Albany, N. Y., for the protection of Policy-holders.



OFFICERS.

WILLIAM K. LOTHROP, President.
WILLIAM E. MIDGLEY, Vice-Pres.
VINCENT E. SCHENCK, Secretary.

INSPECTORS.

GEORGE B. N. TOWER, Supervising Inspector.
Associate Inspectors located at New York, Pittsburgh, Baltimore, Philadelphia, Providence, Bridgeport, Boston, Chicago and San Francisco.

AMONG THE DIRECTORS OF THIS COMPANY WILL BE FOUND THE NAMES OF

Hon. FELIX CAMPBELL, Engineer and Iron Merchant, 79 John Street, New York.

JOHN H. FLAGLER, of the National Tube Works Co. of McKeesport, Pa., and New York.

W. G. PARK, of Messrs. PARK BROS. & Co., of Pittsburgh, Pa.

JOHN M. JONES, of Messrs. GANTZ, JONES & Co., New York.

STEPHEN R. LESHER, of Messrs. LESHER, WHITMAN & Co., New York.

WM. ABBOTT, Ins. Manager, Philadelphia, Pa.

WILLIAM WOOD, of Messrs. Wz. WOOD & Co., Philadelphia, Pa.

Hon. W. FRANK SAYLES, of Messrs. W. F. & F. C. SAYLES, Pawtucket, R. I.

EDWARD KENNALL, of Messrs. KENDALL & ROBERTS, Boston, Mass.

THIS COMPANY WAS ORGANIZED

for the purpose of insuring Steam Boilers, when used for power or heating purposes, against explosion. It is responsible for all damage done to the buildings, machinery and stock which may arise from the explosion of the boilers.

IT ALSO INSURES ON LOSS

OR DAMAGE to human life, whether the parties are employees or not. It insures any person or persons who may be killed by the explosion, and also gives a weekly compensation in case of partial disability (this being something which no other company does).

THE BOILERS INSURED are visited at stated times by their expert inspectors and thoroughly inspected, both internally and externally, gauges are tested, safety valves properly weighted, and all the boiler appliances thoroughly and carefully examined, and a report of the condition of the boilers in all instances is made out by the inspectors and sent to the assured. Additional inspections are made, when requested, without extra charge to the assured. The internal inspections are made at such times as are convenient to the assured, who is at liberty to designate the day on which he desires the inspection made. The external inspections do not interfere with the workings of the boilers.

THE BEST MADE BOILERS MAY EXPLODE, and no boiler is absolutely safe.

ALL LOSSES ARE PAID WITHIN TEN DAYS, without discount; all other companies wait sixty days before paying.

ANY POLICY-HOLDER who is not thoroughly satisfied with the inspections made, is at liberty to cancel his policy, and the unearned premium is paid back to him. (No other company gives this privilege to their policy-holders.)

THIS COMPANY TRANSACTS NO OTHER BUSINESS, and pretends to do nothing but insure boilers and protect the surrounding property.

STEAM VESSELS AND CARGOES are also insured by this Company.

THE INSPECTORS OF THIS COMPANY are men of long and extensive experience.

THE COMPANY'S EXEMPTION FROM LOSS mainly depends upon its thorough and careful manner of inspections.

It also insures ROTARY BOILERS AND DIGESTERS against Explosion.

ANDERSON & STANTON,
Regular Authorized Gen'l Agents,
152 BROADWAY, NEW YORK.

Toughened Filter Paper.

E. E. H. Francis recently read a paper at the Chemical Society in which he showed that filter paper, ordinarily so weak, can be rendered tough and at the same time pervious to liquids by immersing it in nitric acid of relative density 1.42, then washing it in water. The product is different from parchment paper made with sulphuric acid, and it can be washed and rubbed like a piece of linen. It contracts in size under the treatment, and undergoes a slight decrease in weight, the nitrogen being removed and the ash diminished; whereas, a loop formed of a strip 25 millimetres wide of ordinary Swedish filter paper gave way when weighted with 100 to 150 grams, a similar loop of toughened paper bore a weight of 1.5 kilograms. The toughened paper can be used with a vacuum pump in ordinary funnels without extra support, and fits sufficiently close to prevent undue access of air, which is not the case with parchment paper. A good way to prepare filters for use with the pump is to dip only the apex of the paper into nitric acid, then wash it with water. The weak part is thus effectually toughened. Toughened filter paper will be exceedingly useful, not only to chemists, but to other scientists, both practical and theoretical.

The Paper Maker's versus The Printer's Ream.

In this age of progress when old fogy ideas and practices, that have little, if anything, but custom to recommend their further recognition, are fast becoming obsolete; when American enterprise and innovations are gradually sweeping away the cobwebs which have stood and still stand in the pathway of improvement; when men think for themselves, and are expected to be able to give an intelligible reason for the faith that is in them, instead of worshipping at the shrine of usage, and acting upon the principle that whatever is is right—we believe a little inquiry in the proper direction will develop the fact, that while much has been done, much remains yet to be done. Nay, that in many instances we have strained at a gnat and swallowed a camel; that while we have been aiming at effects, we have overlooked many important, existing defects, which have neither common sense nor utility to recommend them.

Now, there are few printers who have not experienced, one time or another, the inconveniences caused by the four hundred and eighty sheets to the ream nuisance. Just why a printer should be furnished nine hundred and sixty sheets, instead of a thousand, would puzzle a Philadelphia lawyer to explain. There is certainly nothing to sustain the system but custom, and a very silly custom at that. It is true that many paper dealers, recognizing the force of these statements, now furnish five hundred sheets to the ream, but they are the exception, not the rule; and the question arises, what rational reason can be assigned why such a practice should not be universally adopted? When an order for printing is given, it is expressed in thousands or multiples of thousands, and the application is obvious. To illustrate: An order for sixteen thousand sixteen-sheet bills, under the plan advocated, would be produced by a bundle of paper, whereas, under the present system, it would only furnish fifteen thousand three hundred and sixty, exclusive of wastage, and, in order to fill the quota, an additional ream would have to be broken. Annoying, however, as this result may be, it is in the higher grades of paper, and when the nature of the order imperatively demands the full thousand sheets, as in blank work, that this irritating feature especially presents itself, because its fulfillment requires the purchase of three reams, for the simple reason that the printer finds himself forty sheets short of his requirements. Now, it frequently happens that the remaining four hundred and forty sheets are a drag on his hands, and may remain in stock a year before a similar size or quality is again required. Leaf by leaf the roses fade; sheet by sheet the surplus disappears, or else it is cut up at a waste for a job that it was certainly never intended for. Of course, this experience is more applicable to small offices than large ones, but, unfortunately, small offices and country offices are in the majority, and carry little, if any, stock in hand; can ill afford to invest a dollar without receiving a return, and consequently are the greatest sufferers. Under these circumstances how much more convenient would it be if a uniformity were established, and the ream consisted of five hundred or five hundred and five sheets instead of four hundred and eighty. This number might not in all instances come up to the requirement, but, except in cases of gross carelessness or waste, the deficit would be so small as to disarm complaint. In Great Britain a different system prevails among the paper makers. A ream contains twenty-one and a half quires, or five hundred and sixteen sheets, one of John Bull's ideas, the practical operations of which, we think, could be advantageously transported to American soil.—*Inland Printer.*

Applications for membership in the Stationers' Board of Trade are still being made, and the total membership will soon number 200.

Mortgages, Etc.

[In the appended list R. signifies a renewal of a pre-existing mortgage; B. S., bill of sale; and Real, a mortgage on real estate.]

NEW YORK CITY.	
Mortgages.	Amount.
H. Brauns (B. S.)	\$50
A. T. De la Mare (R.)	1,500
J. & W. D. Henry	160
EASTERN STATES.	
William A. Elder & Son, Boston, Mass.	350
William Farnsworth, Boston, Mass.	600
National Color Printing Company, Boston, Mass.	12,500
(subject to prior of \$15,000)	
Ephraim M. Bates, Beverly, Mass.	1,800
William S. Best, Boston, Mass.	1,800
Michael J. Dwyer, Boston, Mass.	1,000
J. H. Hartley & Co., Boston, Mass.	855
L. L. Whitlock, Boston, Mass.	300
MIDDLE STATES.	
George W. Lewis, Albany, N. Y.	800
Lansing, Brown & Vankercran, Poughkeepsie, N. Y.	2,000
WESTERN STATES.	
Peter Roscoe, St. Louis, Mo.	175
J. G. Canfield, Denver, Col.	500
J. H. Williamson, Denver, Col.	300
William Wittleborg, publisher of the Denver Herald (trust deed)	1,000
F. Mahne, Chicago, Ill.	140
S. P. Rounds, Jr. & Co., Chicago, Ill.	2,000
J. J. Spalding (J. J. Spalding & Co.), Chicago, Ill.	2,400
M. A. Barnett, Madison, Ind.	803
The Post and Tribune, Kansas City, Mo.	1,272
Adolph Haas, St. Louis, Mo.	100
John F. Haas, St. Louis, Mo. (B. S.)	500
Howard Scott, St. Louis, Mo.	400
SOUTHERN STATES.	
Moring & Co., publishers of Truth, Baltimore, Md. (B. S.)	350
T. J. Weir, Austin, Tex.	—
LIENS RELEASED.	
Frank H. Smith, Indianapolis, Ind.	950
Averitt & Miller, publishers of the Times, Cumberland, Md.	1,500
John J. Brennan, Boston, Mass.	103
William D. Peak, Boston, Mass.	30
J. H. Hartley & Co., Boston, Mass.	1,000
Howard Scott, St. Louis, Mo.	650

Obituary.

WILLIAM H. WINTER.
William H. Winter, the business manager of Robert Graves & Co., wall-paper manufacturers, was killed by a freight train on West street, New York, on Monday afternoon. No explanation of his death is as yet positively given, some advancing the theory that as the train was moving very slowly he attempted to cross the street by going beneath the cars, and others intimating that it may be a case of suicide, the latter theory, however, being scouted by his business associates. The former statement is borne out by testimony of bystanders, who say that they saw him apparently trying to dodge between the cars. Mr. Winter was a resident of Brooklyn, living at 32 South Portland avenue. He was a native of Easton, Pa., and was forty-four years of age, or would have been had he lived two days longer. Fifteen years ago he entered the employ of Robert Graves & Co. as a bookkeeper. He was industrious and competent, and he was gradually advanced, until eight years ago he was promoted to be business manager, which position he held at the time of his death. His funeral will take place to-day at 1:30 P. M. from his late residence.

RICHARD BURNTON.
Richard Burnton, one of the oldest stationers in New York, died of a complication of diseases on Saturday, March 28, aged seventy-nine years. Mr. Burnton was the father-in-law of the late Charles P. Tooker, and his death occurred while the funeral services of his son-in-law were being conducted in the First Reformed Church. The deceased was in business at No. 93 Fourth avenue, and was well known to the trade. The funeral services were held at his late residence on Monday evening, and on Tuesday morning the remains were taken to Woodlawn for interment.

M. von Hauxhausen, publisher of the *Deutsche Zeitung*, Houston, Tex., is dead.

New Patents.

- No. 313,107. Process of Treating Paper to Preserve it Against the Corrosive Action of Acids.—Ildo Ramsdell, Atlanta, Ga.
- No. 313,174. Filtering-Paper.—Ezra W. Carter and David R. Smith, Cohoes, N. Y.
- No. 313,263. Paper-Smoothing Compound.—Charles Walpuski, New York, N. Y.
- No. 313,994. Paper Maker's Cotton Drying-Felt, Printer's Machine Blanket and Other Machinery Cloth.—James Crossley, Bury, County of Lancaster, England, assignor to James Kenyon, same place. Patented in England, October 9, 1886, No. 4,103, and February 23, 1884, No. 3,817.
- No. 314,054. Paper Pulp Fabric for Boxes, &c.—Julius A. Pease, West Medford, and George J. Babson, Boston, Mass.
- No. 314,248. Apparatus for Beating and Manipulating Paper Pulp.—Joseph Jordan, Philadelphia, Pa.
- No. 314,490. Manufacture of Roofing Felt.—William H. H. Childs, New York, N. Y.
- No. 314,548. Purifying Sulphuric Acid.—George Thomson and William Kemp, Elizabeth, N. J.

TRADE-MARKS.
No. 12,031. Paper Bags.—The Western Paper Bag Company, Batavia, Ill.
The words and letters "Western Challenge W. P. B. Co."

Correspondence.

Boston Notes.

[FROM OUR REGULAR CORRESPONDENT.]

EASTERN OFFICE PAPER TRADE JOURNAL,
250 Devonshire Street,
Boston, April 1, 1885.

The greater part of last week I spent among the paper makers of Holyoke and neighboring cities. Although the paper industry is not as flourishing as manufacturers might wish for, it is not as depressed as some other lines of manufacture. The long period of low prices has tended to teach paper makers economy, so that the waste of material and time is reduced to a minimum. The experience thus gained by paper makers in the economic manufacture of their product will prove most profitable to them when the times shall justify an advance in prices.

To the casual observer, Holyoke does not seem to be suffering to any visible extent. The mills are all running; orders seem to reach there from some source, and manufacturers appear cheerful, even if the profits are small.

Those mills that are well known to the trade through some special grades of paper are the most favorably situated during the present times, both as regards orders and prices, the greatest competition being in paper of lower grades.

Relative to the supply of rags, manufacturers do not show much uneasiness. Many of them claim to be sufficiently stocked for some months yet, and they entertain a hope that when their wants become pressing, the conditions of the market will be more favorable to them.

In this respect manufacturers have the opinions of many of their heavy consumers of paper, who defer their orders with the hope of shading prices.

If what I learn from a few paper makers concerning disinfected rags is the sense of manufacturers generally, this kind of stock is not much sought after. They do not want it, and will not use it until forced to.

Judging from the reports of a couple of Boston paper-stock dealers whom I met in Holyoke, manufacturers don't want anything. Now, I can sympathize with those rag dealers, for we journeyed around together, and the walking was bad too; but the weather was cool—yes, a little too cool for the season and we all got left.

It was pleasant, however, to find one con-

cern in Holyoke that was crowded with orders, for such was the report from Buchanan, Bolt & Co., proprietors of the Holyoke Wire Works. To look through the different departments of their factory and see the number of workmen busily engaged in the several processes of manufacturing Fourdrinier and dandy rolls was a reminder of old times.

J. N. Brown, the popular representative of the Holyoke Wire Works, has been confined to his home during the whole of last week from complicated colds, but through careful nursing was able to venture out on Saturday. Although unable to personally solicit business during that time, orders continued to come in, so favorably known is the product of Buchanan, Bolt & Co. to the paper manufacturers of the country. Good work tells every time.

Frost, Davis & Co., who a few months ago selected Holyoke as the place for the locating of their shops, are pleased that their enterprise has been so well sustained by the neighboring mills. These manufacturers are prepared to furnish paper engine bars and plates, rag cutter straw cutter and trimming knives.

Porter Brothers, the inventors of Porter's Patent Saveall, report that their device is being well received by manufacturers. The Holyoke Paper Company, the Valley Paper Company and the Whiting are among the Holyoke mills that are now using this saveall, and they endorse it as the best machine now in use for saving all of the waste pulp from paper machines and stuff chests. It saves the stuff clean so that it can be taken and used right over again. Economy prompts the use of this saveall, for it soon pays for itself and then earns a profit.

Boston trade, so far as the paper industry is concerned, shows no change over the conditions ruling last week. A little business is doing in the various branches, but the anticipated spring activity does not yet show itself.

The imports of paper stock for the past week comprise 2,904 bales of paper stock, 529 bales of flax waste, 132 coils of old rope, 1,736 bundles of wood pulp and 520 bales of manilla hemp.

The chemical imports include 2,075 casks of bleaching powder, 778 casks of soda ash, 1,050 drums of caustic soda and 280 barrels of soda crystals.

The chemical market is reputed a little firmer. Bleach is quoted at 1.60 to 1.65; although the arrivals are large for the week very little goes into store, being sold to arrive. Chemical dealers report that foreign manufacturers will reduce the daily product of bleach-

ing powder 10 per cent. further during April. Caustic soda is quiet, but firm at 2.60. Soda ash is in moderate stock, and is held at 1.05c. Soda ash is firmer, but the demand is light.

Of miscellaneous imports there were received 411 bags of hide-cuttings, 250 barrels of rosin, 36 casks of clay, and 19 cases of ultramarine.

Theodore Pinkham's loss from the fire of last Tuesday night in the Mercantile Block, on Commercial street, I am pleased to state, is not so great as reported. The total value of the stock stored in the building is estimated at about \$35,000, which was fully covered by insurance. The actual loss, however, as per inventory, is \$3,009.22, which the insurance will meet. The fire in no way interfered with the daily business of the house, and Theodore Pinkham is fully prepared to fill all orders for leather board, straw board, white box board, &c., from his storerooms, at 52 Elm and 24 Friend streets. A. L. D.

Holyoke Notes.

[FROM OUR REGULAR CORRESPONDENT.]

HOLYOKE, MASS., April 2, 1885.

This is the annual fast day; the wheels are all stopped and the busy hum of machinery is hushed for one day. Manufacturers and their employees are alike enjoying their holiday, and it is well that they should, for "all work and no play makes Jack an exceedingly dull boy." There is very little to say in regard to business, as the situation remains unchanged. Some of the dailies have been predicting a boom, but it does not seem to have reached here yet; nevertheless, it will be very welcome when it does happen along. Finished stock is moving moderately, with no particular demand for any one kind. There is a quiet call for news, but no sizeable orders are reported. Foreign rags are very quiet, the movement being in small lots only, with very little change in price. Disinfection is still discussed, and a variety of opinions is expressed, some thinking that there will be a change in the present rules before long, while others think that if any change takes place they will be more stringent than ever. This controversy will not change matters one way or the other, and all must possess their souls in patience.

I mentioned in a recent letter that John C. Newton had gone to Mexico for a pleasure trip, and he has just written a letter to his brother which gives some interesting information in regard to paper-making in that country. He says: "Paper ranges from 15 cents for

the poorest to 25 cents for ordinary book, while writing paper brings 30 to 50 cents. The eight mills here make about four tons of paper a day, of grades from 15 to 25 cents a pound, and twice as much more of various grades is imported. Very little wrapping paper is used. We visited one paper mill which produces one and one-half tons a day, this being the largest mill in the country. The goods are made from cotton waste and rags collected here, and sell for 20 to 25 cents a pound. The rags are so poor that the paper cannot be engine-sized. Freight rates are 1 1/2 to 2 cents a pound for car-load lots to New York. Some of the people earn 18 cents a day, and many of them go about in rags. They are industrious, more than could be expected, considering the fact that they have to pay one-third of their earnings to the church."

The commissioners of the Whiting street estate, of which J. C. Parsons and J. S. McElwain, of the Parsons Paper Company, are members, are to erect a handsome granite business block, to cost \$60,000, on Main street. It will be 100 feet front and 104 feet deep, its height being five stories. The first floor will contain four stores, each 22 by 100 feet. They will be finished in hard pine, with cherry or ash trimmings, and each will have large plate-glass windows. The second and third stories will be devoted to offices, of which there will be five single and two double ones, each 18 by 20 feet, finished in quartered oak, with cherry and bronze trimmings. The fourth and fifth stories will be finished off into storage rooms, each 22 by 100 feet in size. The building will be well adapted to the wholesale business.

The Kilpatrick Relief Corps has been soliciting goods for the Grand Army Carnival at Chelsea in aid of the Soldiers' Home, and the Whiting Paper Company has contributed \$50 worth of goods; Holyoke Envelope Company, \$15; Beebe, Holbrook & Co., \$10, and the Parsons Paper Company, \$5.

Christopher Berry, bookkeeper for the Worthington Paper Company, has been elected treasurer of the Springfield Printing Company, and James R. Smith, for several years paying-teller of the Hadley Falls National Bank, takes Mr. Berry's position with the local company.

William Burland, edge-gilder at the National Blank-Book Company's works, has resigned and has gone to Kalamazoo, Mich.

E. A. Whiting, who went West in search of health last week, has been heard from at Kansas City. He has gone on to Arizona.

Holyoke Lodge of Odd Fellows is to give an entertainment at South Hadley Falls next week for the benefit of Samuel Taylor, a member who was badly injured at the Carew Paper Mill some time ago.

Maria Lovell, a young woman employed by the National Blank Book Company, had two fingers on her right hand taken off in the machinery one day this week.

David M. Donaldson, watchman at the Carew Paper Mill, at South Hadley Falls, has been appointed a policeman by the town authorities. H.

Chicago Notes.

[FROM OUR REGULAR CORRESPONDENT.]

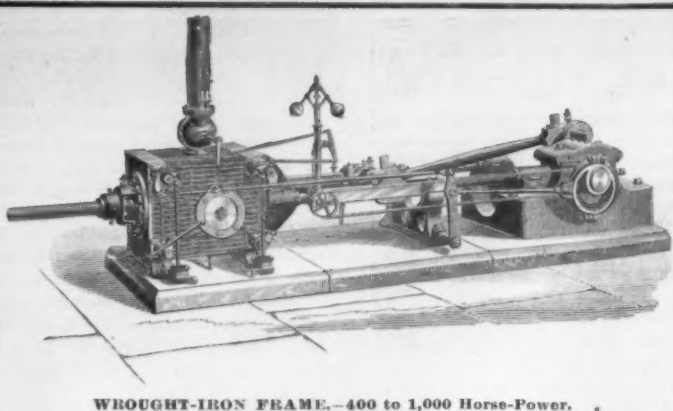
WESTERN OFFICE PAPER TRADE JOURNAL,
113 East Madison Street,
Chicago, March 30, 1885.

It is gratifying to know that winter must soon give way to sunshine and warm weather. The uncertainties of the present Administration have passed away and merchants are becoming more hopeful that the spring trade will bring them a big harvest. For the last eight months the smaller merchants have allowed their stocks to run down to almost nothing. This one fact has been the invigorator of many wholesale dealers, who realize that each day brings them nearer and nearer to recuperation. Some few of the trade have the moral courage to invest in the latest and oddest styles of goods. These are of a class who have the fullest confidence in their ability to interest their customers, relying on their own capacity and enterprise to create a demand. Such merchants are "getting the bulge" on trade and making the heaviest. They are the first in the field and the first to cut off the coupons.

W. S. McComas, assignee of J. S. Stott, has notified the creditors that he will dispose of the stationery, stock, &c., at 224 State street. It is not thought that the creditors will realize much.

Miller & Kirkpatrick, of Peoria, Ill., say that they are not having any trouble to dispose of their rag stock, but find no little amount of trouble in getting goods now in demand.

The insurance companies of Chicago are about to enter into a fierce conflict on Thursday of this week. It is war to the knife and knife to the hilt, until somebody cries enough. Property owners will no doubt be pleased to have the war continued indefinitely. This promises to be one of the most unrelenting wars ever proclaimed in insurance circles, as insurance will be taken at ruinous rates. The

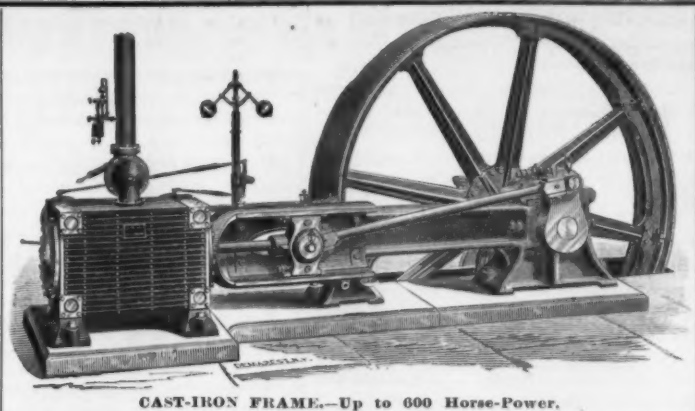


WROUGHT-IRON FRAME.—400 to 1,000 Horse-Power.

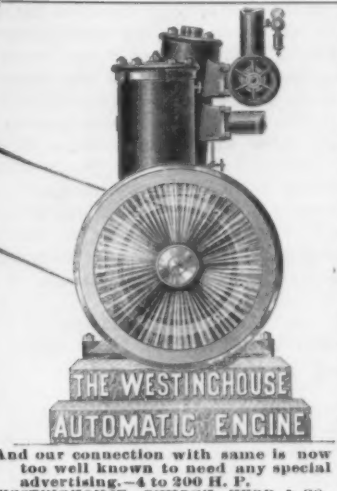
WE REGARD THE REYNOLDS-CORLISS ENGINE, BUILT BY E. P. ALLIS & CO., MILWAUKEE.

AS in a marked degree the best of its type in respect to the design of its details, its massive construction and very superior workmanship. We call especial attention to the wrought-iron bed, and invite examination of working drawings, which can be seen at our office. Or we will send same with one of our engineers to any party contemplating a purchase. These drawings show the superiority of detail design in a manner that cannot be approached in any advertisement or correspondence. Mr. Edwin Reynolds is probably at this moment the most successful designer of heavy Compound Condensing Engines in the country. The high-duty Pumping Engines, high-speed Blast Engines (with Reynolds' patent metal air valves) and Sewage Pumps, built by the above concern, represent the most advanced engineering. They also build an engine designed especially for high-speed service in rolling mills, having a positive valve motion, cut-off ranging to 3/4 stroke and speed variable while running. The company makes a specialty of heavy work, being fully equipped with large tools. Having been appointed Sole Representatives of Messrs. E. P. Allis & Co., we will estimate as such on heavy engineering construction for Cotton Mills, Rolling Mills, Steel Works, Blast Furnaces, Water Works, Municipal Improvements, &c. Send for our Circular of the Reynolds-Corliss Engine, giving comparative illustrations of details.

WESTINGHOUSE, CHURCH, KERR & CO.



CAST-IRON FRAME.—Up to 600 Horse-Power.



THE WESTINGHOUSE AUTOMATIC ENGINE

And our connection with same is now too well known to need any special advertising.—4 to 200 H. P. WESTINGHOUSE, CHURCH, KERR & CO.

We have carefully prepared Special Circulars with valuable information on PAPER MILLS, SAW and PLANING MILLS, ROLLING MILLS, ELECTRIC LIGHTING, FLOUR MILLS, RAILROAD APPLICATIONS, CENTRIFUGAL PUMPS, &c. Free on application.

Manufacturers and contractors often find dissatisfaction and difficulty in executing work from plans and advice which are purely professional, since such advice not only does not lie under the financial responsibility for the work, but may at the same time invalidate the responsibility of the contractor. Believing that the entire responsibility, both engineering and financial, should be inseparable,

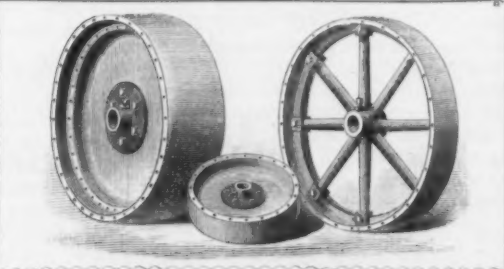
WESTINGHOUSE, CHURCH, KERR & CO., Contracting and Consulting Mechanical Engineers,

Design and Estimate on Complete Plants for the GENERATION, TRANSMISSION and APPLICATION of POWER, and contract for the erection of same on their own capital and responsibility. OUR BUSINESS is conducted in three departments, each of which is under the detail supervision of the Principals.

CONSULTING MECHANICAL ENGINEERS. We design, locate and supervise the operation of power plants; investigate, report upon, and design special applications of power, special machinery and processes; make expert tests of power, duty, &c.; inspect and supervise mechanical construction, &c. For this service we make a reasonable charge.

CONTRACTING ENGINEERS and SALESMEN. We design and contract for—Boilers of all kinds; Engines, high or low speed, condensing, compound, and marine; heavy Pumping and Blowing Engines; Sewage Pumps; Rolling Mill Engines, &c.; heavy and light shafting, gears, pulleys, &c.; and special machinery. Our long experience in this business has naturally led up to the preference of certain special constructions (some of which are illustrated in the margin) as the best of their type. To enable us to handle these in competition, we have assumed the selling Department of each by special contract with their respective makers. We handle nothing on Commission, but employ an ample capital to purchase outright and place the product at low figures for cash, bringing on our own responsibility into every transaction. In this department we employ a competent force of engineer-salesmen, who are at the service of our customers on call. No charge is made for professional services in connection with our contracts.

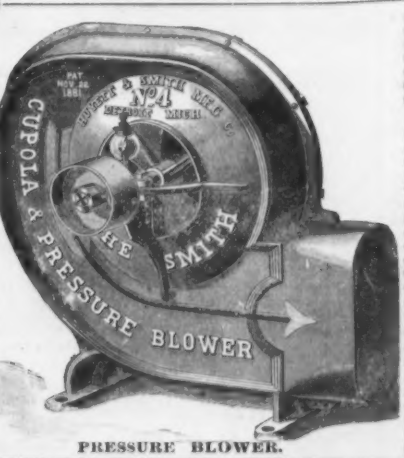
PURCHASING AGENTS. We are thoroughly posted on the machinery market, in which we are discriminating cash buyers. This enables us to purchase machinery and supplies to order for our clients at closer figures than can be obtained by a buyer not on the ground. We insure bottom prices by taking no commission from the seller, but charge the buyer a small rate on the net purchase. Finally, we do not allow professional considerations to deter us from properly advertising our business. H. H. WESTINGHOUSE, WM. LEE CHURCH, Very respectfully, WESTINGHOUSE, CHURCH, KERR & CO., 17 Cortlandt St., New York. WALTER C. KERR, ISAAC H. DAVIS.



THE AMERICAN PAPER PULLEY

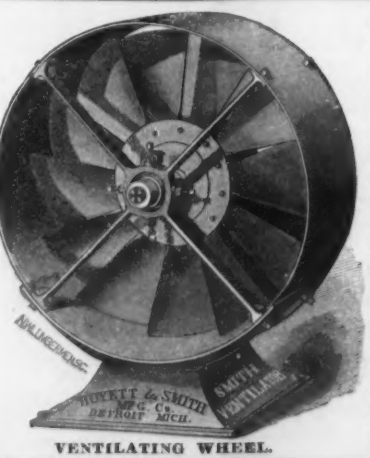
YAS a driving power over three times as great as cast or wrought iron, or wooden pulleys. It will be found a complete remedy for slipping, over strained, and short belts, and does away with tighteners altogether. Our tests show this to be the most valuable improvement ever made in pulleys. Weight, one-half of iron. Freight less. Impossible to break. Single and double belt and double arm. We are competitive bidders on complete mill outfits of pulleys and shafting. Also paper friction wheels, friction rollers, and polishing wheels. We make a specialty of difficult cases in transmission, either by belt or frictions. Send for Descriptive Circular and Price List.

WESTINGHOUSE, CHURCH, KERR & CO.



SMITH FAN, MADE BY THE HUYETT & SMITH MFG. CO., OF Detroit, Mich.,

on the Eastern market, we have satisfied ourselves that it is a bona fide and radical improvement. This statement is the result of opinion, but of actual tests, conducted by ourselves as a preliminary to our own contract. While the exact results will vary with the conditions, it may be accepted that the Huyett & Smith Fan (exhaust or pressure) will deliver a given volume and pressure of air on one-third less power than any other. This is due in general, to the double discharge openings, relieving twice in each revolution and to the shape of the wheel, preventing interference of currents, and cannot be said of any other fan in the market. The Ventilating Wheel appears to be the only one which is free from back lash through the centre. We treat this matter more fully in our Illustrated Fan Circular. Sent Free on Application. WESTINGHOUSE, CHURCH, KERR & CO.



VENTILATING WHEEL.



We also represent the STERLING STEEL CO., LIMITED, Of Pitts burgh, Pa. Manuf'rs of FINE CRUCIBLE STEELS. The "Sterling Special" Tool Steel is intended for the service usually required of the best foreign brands, and will be found a very superior steel. We also offer the "Sterling Extra" Tool, Best Die Steel, in bars or blocks, Rock Drill Steel, Crank Pins, Frog Bars, and Shape Forgings. The works are under the immediate supervision of Mr. C. V. Wheeler, which is a sufficient introduction to the market. We particularly ask the attention of parties having severe requirements not satisfactorily met by steels now in use. Upon learning the conditions, a special mix will be made to meet same, regardless of quantity used. We will be pleased to make quotations, and solicit a trial order. WESTINGHOUSE, CHURCH, KERR & CO.



DOUBLE EXHAUST FAN.

following named local agencies have given the usual thirty days' notice of their intention to withdraw from the board: C. H. Case & Co., C. W. Drew & Co., and James S. Gadsden, manager of the Aetna, of Hartford. The reasons for the cutting is due to the Germania Fire Insurance Company and the Underwriters' Agency, both of New York, who would not permit their agents here to join the new proposed underwriters' local association.

Geo. H. Taylor & Co. are getting their new quarters into elegant shape. Mr. Taylor is in excellent spirits and pushing things to the limits.

The genial W. O. Taylor, secretary of the J. W. Butler Paper Company, has been under the weather for the last few days. He still retains the same good humor so notable with him.

The Calvin Cobb Library Company has been making some needed alterations. W. H. Metcalf, the president, is getting things into good shape, curtailing expenses, &c.

Mr. Hoole, of Snider & Hoole, is actively attending to business in his new quarters, the Mattison House, where he has been recuperating since the fire at the Langham Hotel. Mr. Hoole desires his friends in the trade to remember that he is still in the ring, filling all orders that are sent in.

The following named visitors are in the city: Frank T. Moody, of S. C. Moody & Co., Kansas City, Mo.; J. F. Rollins, of Des Moines, Ia.; J. M. Johnston, of the Middletown Paper Company, Middletown, Ohio; Mr. Gilbert, of Gilbert & Whiting, Menasha, Wis.

At four o'clock this morning a fire broke out at 119 Monroe street, in the building occupied by Bradner Smith & Co. and the National Printing Company. Owing to the inflammable nature of the contents of the building the flames spread with great rapidity, burning everything on the third and fourth floors. After hard fighting, the firemen succeeded in getting the flames under control. The magnificent and costly office of the National Printing Company, on the second floor, was completely ruined with water. The insurance is not known, but is supposed to be \$113,000. Mr. McConnell has not settled on offers for the present. His business will be greatly delayed.

Bradner Smith & Co.'s loss by fire is small, but the damage by water is very heavy, and is supposed to be nearly \$90,000; insured for \$130,000. All hands are busy removing their office to 185 Dearborn street, where they will continue to fill all orders.

Mr. Rice says that everything will go swimmingly along as if nothing had happened, as all of their orders will be filled from their warehouse. Noz.

Communications.

Another Idol Shattered.

To the Editor of The Journal:

I desire to call your attention to the covers of a pamphlet which I mail to you this day. You will observe that the work was published at Paterson, N. J., ten years ago, and that the cover is of the same kind of paper, and evidently made by the same method as that recently patented by a Holyoke manufacturer. The fact is that the paper was made at the Ivanhoe Mill, and was known by the name of "Agate" paper. Is it possible that the Holyoke man's patent was thus early infringed upon? It seems to me that it would have been more courteous to have waited until the patent was issued before infringing on it.

VINDEX.

California Not Far Behind.

TAYLORVILLE, Marin Co., Cal.,
March 14, 1885.

To the Editor of The Journal:

S. P. Taylor & Co. can place on record about as large an amount of paper turned out on a 68-inch Fourdrinier machine as I have heard of for some time. It may look big to me, as I have been in Oregon and Washington Territory so long, out of the jurisdiction of paper-making, but the fact is that they turned out on that 68-inch machine 11,000 lbs. in one day. That week's run was over four tons per day, in the meantime making fourteen changes, all being small orders. I will admit that it was heavy paper, although we can record very good on light-weights, as we can show over 4,400 lbs. of 32 x 46—37 lbs. run over the same machine in 11 1/2 hours. All paper makers know what "fruit paper" is. It is just strong enough to run over the machine. I have not stated the engine capacity, but I will. There are three 500-lb. washers, two 500-lb. beaters and one Jordan.

When I write of the Jordan, it sets me to thinking of the great first cause of fast running machines. I will not say anything of 1858, but in 1859 and 1860 paper manufacturers began to see the need of some improvement in the beating-engine and put them in their mills. The improvement was great, and the stuff flooded the machine. Then the machine was speeded up faster, and so it went on from 70 feet up to 100, and now double that speed.

The young machine-tenders think that it is all their superior knowledge of the machine which turns out the paper. They forget the

men who worked their brains and got from hand paper-making to the machine. They forget the men who invented the shake, suction-box, lay-boy, felt-guides and wire-guides, and the Jordan engine. These men are up in years, and some have gone to their long home, as I see chronicled in THE JOURNAL the death of an old acquaintance and veteran paper maker, Robert Hutton.

I must not forget our finishers. One man and one woman counted, folded and tied up in one day over eight tons. By the way, those runs show that the stuff-pump must have been in good order even with the cast-iron valve-seats.

"Rex," in speaking of the stuff-pump in a mill he was in, says that they tried cast-iron valve-seats which did not run three months; wrought iron was no better; steel did not stand at all. I think that chemicals must have been very cheap or power no object in that mill. I admit that the brass seat is the best, but if a cast or wrought iron seat does not run from three to five years there is something wrong which ought to be remedied.

Since writing the above, S. P. Taylor & Co. have made a better record, viz., 5,628 pounds inside of twelve hours. T. P.

Something for Construction.

The appended letter was written by one paper-maker to another, in response to an inquiry about a certain mill, and is amusing if it is not definite:

DEAR SIR—I do not know how to answer yours of yesterday without saying something that might not be of any benefit to me.

Mr. — is a very fine appearing man, and I have always liked him, but somehow neither he nor Mr. — made a success of my mill—probably because the mill was good for nothing.

I do not know that I know Mr. —, neither have I any particular desire to know him. I do not know whether he is worth a cent or not, but I do know one old man that would like to know. I have not been in the mill since I left it, and do not know whether there is any machinery in it or not, but suppose that there is, but do not know who it belongs to if there is.

If I owned a mill, and was to sell it for \$1,000, cash down, I should almost think I had the money—provided I had it in my pocket; but if I were to wait six months I might die before that, and leave the promise for my family. I look upon indorsed paper as always good, till you know it is not.

Machinery does not rust so bad, in my opinion, when it is running as it does when it is lying idle, and therefore it might be just as well to let someone run it, even if you get nothing for it (provided things would not break down), as to let it lie still and get nothing and let it rot. There is always a chance for a loss, whether it is running or idle.

Therefore, to sum up: If I owned a mill and did not, or could not, run it myself, I would sell it for cash down, part cash and part time, long or short, or on any promise that looked well, or give it away—which might be the easiest way to save all trouble.

If this letter was written to me by you I should read and construe it to suit myself; but, as it is from me to you, it would be better to put your own construction upon it.

General Notes.

W. H. Parsons & Co. are now located in room F, on the first floor of the Stewart Building, Broadway and Chambers street, New York.

John H. Lyon & Co. have extended their accommodations by inclosing part of the first floor of their salesroom and attaching it to their former office.

Geo. Woolford, successor to Woolford & Potter, is about to increase his facilities for the manufacture of all kinds of tanks, vats, boiling tubs, stuff-chests, water tanks, &c., for paper makers.

The secretary of the Cosmos Fibre Company, John L. Lindsay, states that a representative of the company is now in Belgium, where the corporation's machinery is, carrying on certain negotiations which it is expected will be closed in about ten days, when the company will be ready to produce chemical fibre.

The new brokerage firm of O'Brien & Dupree starts out in good style, both of the gentlemen being widely and favorably known to the trade, the latter member being until this week the New York representative of Train, Smith & Co. If the hearty congratulations of a host of friends, and a thorough knowledge of their business, are of any service, O'Brien & Dupree are assured of thorough success.

Oswald Ottendorfer, Edward Uhl, Annie Woerishoffer and Emma Schalk, representing more than two-thirds of the capital stock of the *New Yorker Staats Zeitung*, have consented to mortgage to the first named stockholder the *Staats Zeitung* building, on Tryon row, Centre and Chatham streets, to secure the payment of \$450,000 of the purchase money of the building, in consideration of his transfer of the same to the above corporation.

The Norwegian Wood-Pulp Company has just been established in this city with offices in the Vanderbilt Building, 132 Nassau street, to continue the business of importing wood pulp, as established by Henry de Mazière. It owes its origin to the rapid growth of Mr. de Mazière's business, and clashes with his other large interests both in the import and export of other produce, so that a severance became imperatively necessary in order to bestow proper attention to all. The outstanding contracts with Mr. de Mazière will be properly attended to by the new company. The new concern will make a specialty of foreign wood

pulp and is prepared to fill large orders for any grade at short notice. The company is virtually under the same management, Frederick Bertuch, the president, having held a managing position with Mr. de Mazière for fourteen years. Ira L. Beebe, the secretary, is too well known as a broker in wood pulp to make any further reference to him necessary. John L. McCabe, the treasurer, is and has been connected with Mr. de Mazière's business for years.

The wall-paper manufacturers, including H. Bartholomae & Co., Fr. Beck & Co., William Campbell & Co., Warren, Fuller & Lange, and the G. W. Allen Company, Limited, have adopted and issued the following schedule of prices to be paid to paperhangers: For plain papering, from 15 cents to 75 cents a roll; for decoration, from 4 cents to 50 cents a piece; for borders, from 2 cents to 6 cents a yard; for moldings, from 2 cents to 6 cents a foot, and for a day's work of eight hours, \$4. These prices the men refuse to accept, and have struck. The manufacturers say they can get plenty of men to take the strikers' places.

Horsford's
ANTI-CHLORINE
Superior to any other Anti-Chlorine in use.

It is a very fine white powder, wholly unobjectionable to the most fastidious manufacturer.

It is equally well adapted to fine letter or common book or news paper, sized or unsized, and not only neutralizes chlorine, but also the acids left in the stock. It will not affect the most delicate shading colors, nor the alum used in fixing them.

For particulars send to the Manufacturers for Descriptive Circular.

MANUFACTURED BY
RUMFORD CHEMICAL WORKS,
PROVIDENCE, R. I.

AUGUSTINE SMITH & CO.
PAPER WAREHOUSE,
Nos. 110 & 112 NASSAU ST., NEW YORK.

—AGENTS FOR—
The Chelsea Paper Mfg. Co.,
Tileston & Hollingsworth and
J. & R. Kingsland.

WOOLWORTH & GRAHAM,
COMMISSION
Paper Warehouse.

OFFICIAL EXPORT AGENTS
American Paper Manufacturers.

—IMPORTERS OF—
Paper Makers' Materials.
OFFICE, TRIBUNE BUILDING. | WAREHOUSE, 38 ROSE ST.
NEW YORK.

The BEST and CHEAPEST
W. W. TUPPER & CO. PATENT

GRATE BAR
For any kind of Fuel.

W. W. TUPPER & CO., 206 West St., New York.
SEND FOR CIRCULAR.

JOHN DUNHAM, Supt. G. K. SHOENBERGER, Prop'rs.
CHICAGO STEAM BOILER WORKS
and Iron Foundry.

Rotary Bleachers and Castings.

Water, Lard and Oil Tanks and Sheet-Iron Work,
66, 68, 70, 72 Michigan St., CHICAGO.

ORIENTAL * LUBRICATING * COMPOUND.
AS A LUBRICATOR THIS COMPOUND IS UNRIVALED
—FOR—
Paper Mills, Cotton and Woolen Mills.

Sugar Refineries, Gas Works, Brick Machinery, Dredging Machinery, and for ALL MACHINERY with HEAVY BEARINGS. We claim for this Lubricator Economy, Durability and Perfect Lubrication without Friction, Gumming or Running.

THE BEST ARTICLE FOR BELT STUFFING AND GEAR GREASE.
ORIENTAL LUBRICATING CO., { R. H. SPALDING, Manager.
22 & 24 FULTON ST., BOSTON.

WOOD PULP, STRAW PULP,
—AND—
ROTARY BLEACHING BOILERS.

THOSE WHO HAVE UNSAFE ROTARY BOILERS IN USE CAN EXCHANGE THEM FOR THE Loring Patent Rotary, and can be furnished with abundant evidence that the Loring Boiler is absolutely safe, and the only safe Rotary Bleaching Boiler in use. For the production of chemically prepared wood-pulp it has been found extremely difficult to make a boiler that would remain absolutely tight for any considerable length of time. I have accomplished this result by adopting modes of construction far in advance of the best methods for producing first-class boiler work, in combination with substances and methods entirely independent of boiler work, and only known to myself. I invite special inquiries in regard to my patent **WOOD-PULP BOILERS**, patent **STRAW-PULP BOILERS**, and Rotary Bleaching Boilers; also to my patent process for extracting water from wood and straw pulp, and to my improved Fibre or Drainer Tanks, and Fibre Valves. The common steam boilers built by the undersigned have proved more durable and safer than those of any other manufacturer in the United States. Steam boilers, now in good condition, that have been in constant use twenty-eight years, can still be seen in use in Boston. Not one of the many thousand boilers, varying in weight from one-half to forty tons, has ever exploded or given out, to cause injury to a single person or to one dollar's worth of property, during the twenty-eight years.

HARRISON LORING, Boston, Mass.

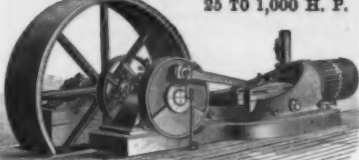
NOTICE.—I have been informed that irresponsible boiler-makers have offered to build Rotary Boilers with whole wrought-iron heads and a hollow journal, which would be an infringement of my patent. Such boilers will be made by the undersigned at low prices—having special tools for the work—and no extra charge made for the patent-right, which would have to be paid by the user if made by an unauthorized person.
HARRISON LORING.

CHARLES HARLEY,

—DEALER IN CALIFORNIA AND DOMESTIC—

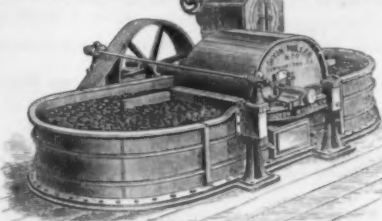
Cotton and Woolen Rags,
AND ALL KINDS OF PAPER STOCK,
362, 365 & 367 Third Street,
Bet. Ave. D and Lewis St.,
NEW YORK.

NEW TANGYE BUCKEYE AUTOMATIC CUT-OFF ENGINES.

25 TO 1,000 H. P.

These Engines are the combined result of long experience with automatic cut-off regulation, and most careful revision of all details. They are designed and constructed for heavy and continuous duty at medium or high rotative speeds. Highest attainable Economy in Steam Consumption and superior regulation guaranteed. Self-Contained Automatic Cut-Off Engines, 15 to 100 H. P. for driving Dynamo Machines a SPECIALTY. Illustrated Circulars with various data as to practical Steam Engine Construction and performance, free by mail. Address:
BUCKEYE ENGINE CO., Salem, Ohio.

Sales Agents: GEO. A. BARNARD, 70 Astor House, New York and 55 Mason Building, Boston, Mass.
D. L. DAVIS, 23 S. Canal St., Chicago, Ill., and ROBINSON & CARY, St. Paul, Minn.
KENSINGTON ENGINE WORKS, Limited, Philadelphia,
Sole Licensees and Manufacturers for New Jersey (South of Trenton), Eastern Pennsylvania, Delaware, Maryland and Virginia.

MILLER'S Patent Iron Roll Rag Engine.


DOWNINGTOWN MFG. CO., Lim.,
DOWNINGTOWN, PA.
The best Engine in the Market; turns the stock without assistance from the engineer; iron tubes; iron breast and fall; double lighters; quick relief lever and all latest improvements.
Fourdrinier and Cylinder Machines.
IMPROVED TURBINE WATER WHEELS, STEAM ENGINES AND ELEVATORS.

NATURAL DAM MILLS, GOUVERNEUR, NEW YORK.

BAYAUD & STEVENS, Proprietors,
OFFICES: 34 FRONT STREET, NEW YORK CITY,

Manufacturers of Asbestine Pulp
SUITABLE FOR ALL GRADES OF PAPER.

HAVING LARGELY INCREASED CAPACITY OF OUR MILLS, WE ARE NOW PREPARED TO fill all orders promptly. Being owners of mines, admittedly producing the best and most fibrous material, entirely free from grit, with our improved machinery for refining same, we can guarantee our Pulp unsurpassed in quality. Special delivered prices made for quantity.

SPECIALTIES: "Extra Clean" Sizing Rosin; Extra Heavy Smooth Surfaced Dryer Felts.

THE PAPER STOCK DISINFECTING CO.,
67 Temple Court, New York.

A SATISFACTORY METHOD OF DISINFECTION APPROVED BY THE HEALTH AUTHORITIES.

— THIS COMPANY IS NOW PREPARED TO DISINFECT RAGS —
AT BALTIC STORES, BROOKLYN.

DIRECTORS:
S. WEBBER PARKER, HENRY BLACKMAN, W. SCOTT SMITH,
E. B. BARTLETT, WM. HENRY SHELPLER, O. L. GARDNER.

Established 1827.
MAGEE PAPER STOCK CO.,
 DEALERS IN ALL GRADES OF
RAGS, ROPES,
 -AND-
COTTON WASTE.
 Office: No. 55 Great Howard Street.
 STORES:
 2 and 4 BARTON ST., 1 and 3 DUNDEE ST.,
 LIVERPOOL.

JUTE and LINEN
 Paper Stock.

J. & W. SMITH,
 DUNDEE,

Packers and Shippers of
 Jute Threads, Jute Ropes and
 Baggings, Manilla Ropes,
 Bleached Linen Cuttings and
 Threads, Linen and Cotton Rags.

Offices:
 CALCUTTA BUILDINGS,
 Warehouses:
 EXCHANGE STREET,
 DUNDEE, Scotland.

JAS. KENYON & SON
 Derby Street Mills,
 BURY,
 Lancashire, ENGLAND.
 MANUFACTURERS OF

FELTS
 -FOR-
 PAPER MAKERS.

COUCH ROLL COVERS,
 WET and DRY FELTS
 OF ALL KINDS.

Agent in United States:
S. G. TRAIN, BOSTON.

- THE -
Commercial Paper Stock Co.,

LIMITED,
 LIVERPOOL,
 are prepared to receive orders for all grades of
 COTTON and JUTE RAGS, ROPES, &c., of which
 they always have a large stock, well selected.
 Offices: 16 Hackin's Hey,
 Warehouses: Nos. 21, 23, 23a & 25 Cherry Lane,
 LIVERPOOL, ENGLAND.

HENRY BALDWIN,
 HORSEFERRY WHARF,

Horseferry Branch Road, Commercial Road,
 LONDON, E.

H. B. IS PREPARED TO TAKE ORDERS
 -FOR-

DISINFECTED
 PAPER * STOCK

AS SOON AS THE
 INSPECTORS ARE APPOINTED.

PAPER MAKERS'
SUPPLIES.

Linen, Cotton and Woolen
RAGS,

Ropes, Jute, &c.
 GRIOZEL & GOUTE,
 MARSEILLES.

WAX PAPER,

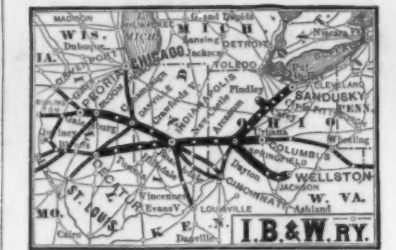
FOR
 Grocers, Butter Packers, Tobacco Mfrs.,
 Cracker Bakers, Soap Mfrs., Fruit Pack-
 ers, Provision Dealers, Box Makers
 (for lining boxes), Confectioners,
 Perfumers, Druggists, etc.

SPECIAL FACILITIES FOR
 Waxing Heavy & Light Papers

FOR
 LINING CASES intended for LONG VOYAGES.
 Send for Samples and Prices to
CHASE & CO., Manufacturers,
 BOSTON, MASS.

I. B. & W.
 ROUTE.

THE GREAT THROUGH ROUTE
 - BETWEEN THE -
 East, West, North and South.



Through PASSENGER TRAINS Daily
 AS FOLLOWS:

THREE SOLID TRAINS EACH WAY
 Between Columbus, Indianapolis and Peoria.
 TWO TRAINS EACH WAY
 Between Columbus, Indianapolis and Decatur.
 TWO TRAINS EACH WAY
 Between Sandusky, Indianapolis, Peoria and Decatur.
 TWO TRAINS EACH WAY
 Between Sandusky, Dayton and Cincinnati.
 THREE TRAINS EACH WAY
 Between Sandusky, Springfield and Columbus.
 FOUR TRAINS EACH WAY
 Between Columbus, Springfield, Dayton & Cincinnati.
 TWO TRAINS EACH WAY
 Between Columbus, Springfield, Indianapolis & Chicago.

- WITH -
 Sleeping and Reclining Chair Cars on Night
 Trains and Elegant Parlor and Modern
 Day Coaches on Day Trains.

Its track is laid with HEAVY STEEL RAILS, thor-
 oughly ballasted, with easy grades and few curves.
 Traversing as it does the heart of the three great
 States of Ohio, Indiana and Illinois, uniting in close
 business relationship the capital cities of the first
 and second with the second city of the third, and
 passing through a large number of the most im-
 portant cities and towns in each, and with all its
 central location makes it the

Shortest and Most Desirable Route be-
 tween the East and West.

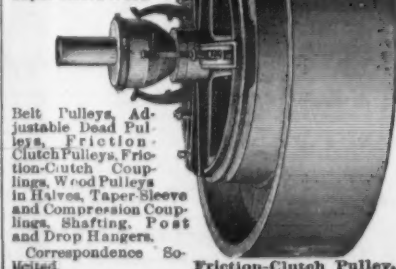
THROUGH TICKETS and BAGGAGE CHECKS
 to all Principal Points
 NORTH, SOUTH, EAST AND WEST

can be obtained at any ticket office of The I. B. and
 W. Railway; also via this route at all railroad
 offices throughout the country. Rates always as
 low as the lowest.

Particular advantages offered to Western Emi-
 grants. LAND and TOURIST TICKETS to all
 points reached by any line.
 C. K. HENDERSON, Gen'l Manager. H. M. BRONSON,
 Gen'l Ticket Agt.

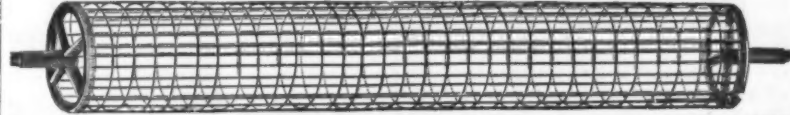
TAPER-SLEEVE

Pulley Works,
 No. 211 W. 12th St.,
 ERIE, PA.
 Manufacturers of
 Taper-Sleeve Wood



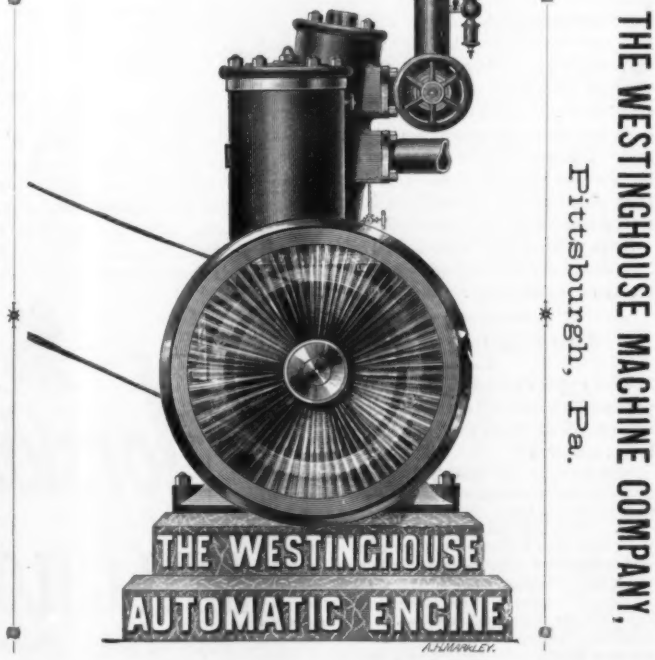
Friction-Clutch Pulley.

CHENEY BIGELOW WIRE WORKS.
 SPRINGFIELD, MASS.,



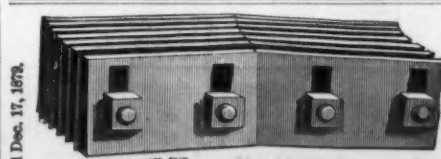
Manufacturers of FOURDRINIER WIRES, Improved Wove and Laid DANDY
 ROLLS, Patented Seamless Wove DANDY ROLL COVERS, &c., &c.
WIRE CLOTH FOR PAPER MILLS A SPECIALTY.

1,500 ENGINES NOW IN USE!
 Our capacity being now equal to 100 Engines per month, we shall hereafter keep in
 stock, for immediate shipment, all sizes from 4 to 300 H. P.

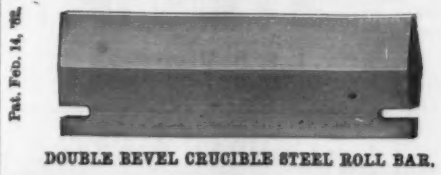


THE WESTINGHOUSE MACHINE COMPANY,
 Pittsburgh, Pa.

SALES DEPARTMENT CONDUCTED BY
 WESTINGHOUSE CHURCH, KERR & CO 17 Cortlandt Street, New York
 FAIRBANKS, MORSE & CO. Chicago, Cincinnati, Cleveland, Louisville and St. Paul
 FAIRBANKS & CO. St. Louis, Indianapolis and Denver
 PARKE & LACY San Francisco, and Portland, Oregon
 PARKE, LACY & CO Salt Lake City, Utah, and Butte, Montana
 D. A. TOMPKINS & CO. Charlotte, N. C.
 KEATING IMPLEMENT AND MACHINE CO Dallas, Texas
 ROBERT MIDDLETON Mobile, Ala.
 H. DUDLEY COLEMAN 9 Perdido Street, New Orleans, La.
 IMRAY & CO. Sydney and Melbourne, Australia.
 R. ROGERS 43 Rue Laflite, Paris.



J. H. HORNE & SONS,
 MANUFACTURERS OF
 Jordan and Paper Pulp
 ENGINES,
 Roll Bars, Bed Plates, Rag Knives.



DOUBLE BEVEL CRUCIBLE STEEL ROLL BAR.

JORDAN ENGINES REFILED.
 Jordan Bar and Filling Constantly
 on Hand.
LAWRENCE, MASS.

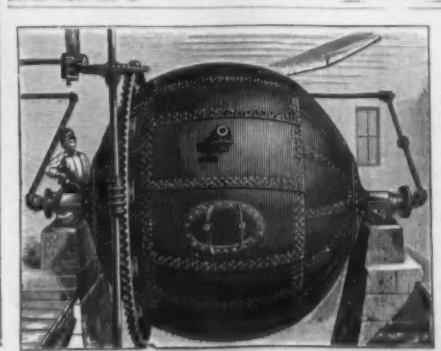
THE CUMMER ENGINE CO.
 CLEVELAND OHIO
 SEND FOR 150 PAGE ILLS CATALOGUE.
 Awarded highest premiums at
 Cincinnati and Louisville Expo-
 sitions of 1883, for "Best Auto-
 matic Engine." We will furnish
 anyone copies of the ORIGINAL
 ENTRIES of several engine build-
 ers who claim they were not
 competing with us. They all en-
 tered in the same class with us,
 and none by deceptive Circulars
 (one headed "Fact versus False-
 hood,") attempt to mislead.
 *No premiums were offered
 for Condensing Engines.

FIRST-CLASS PAPER MACHINERY.

CHAS. P. EDWARDS' SONS, Millwrights and Machinists,
 CHATHAM, MORRIS COUNTY, NEW JERSEY,
 - MANUFACTURE ALL KINDS OF -

PAPER-MAKING MACHINERY,
 Paper Machines, with Improved Drying Cylinders and Stuffing Boxes;
 Rag Engines of Iron and Wood; Roll Bars and Bed Plates,
 Shafting, Gearing, Water-Wheels.

SECOND-HAND MACHINERY FOR SALE. PLANS and DRAWINGS OF MILLS.



J. C. McNEIL,
 MANUFACTURER OF
 ROTARY GLOBE BLEACHING
 AND OTHER BOILERS FOR
 Straw and other Pulp.
 - ALSO -
 McNeil's Patent Soft Coal Magazine Heating
 Boiler. All kinds of Boilers and Heavy
 Sheet and Boiler Iron Work for
 PAPER MILLS a specialty.
 Send for Catalogue and information.
J. C. McNEIL, Akron Boiler Works,
 AKRON, OHIO.

WATERBURY
 AND
EMPIRE FELTS.

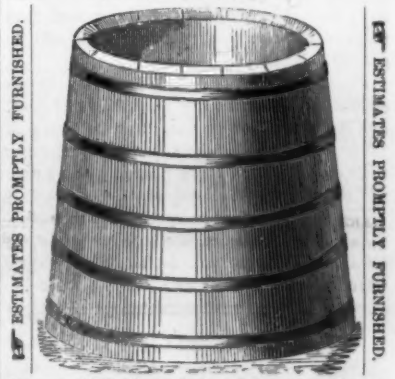
Old, Tried, Reliable.

MANUFACTURED BY
H. WATERBURY & SONS,
 Oriskany, Oneida Co., N. Y.
 Price Lists sent on application.

FRANK DILTS,
 Fulton, Oswego Co., New York.
 MANUFACTURER OF
Paper Mill Machinery,
 Cone Pulley Paper Cutters, Paper
 Trimmers, Rag Cutters, Straw
 Washers, Stuff Pumps, and
 Cylinder Washers.
 Specialties made of Paper Mill Engines, complete
 and Straw Board Machinery.

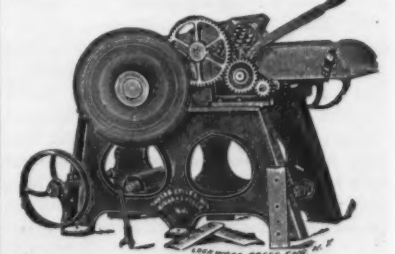
GENERAL JOBBING & REPAIRING.

AMOS H. HALL'S
Cedar Vat & Tank Factory.
 North Second Street, above Cambria,
 PHILADELPHIA, PA.



Drainers, Stuff Chests, Broken Tubs, Straw Kettles,
 Boiling and Size Tubs, Water Tanks, &c.,
 FOR PAPER MANUFACTURERS.

Down-Town Office: 140 Chestnut St., cor. Second.



GIANT
PAPER STOCK CUTTERS
 (THREE SIZES).

They are the most durable, have greater capacity,
 take less power, and are the cheapest cutters in the
 market. Estimates and full description furnished on
 application. Manufacturers of the Angle Bed
 Plates, Roll Bars (steel laid or all steel), Trimming
 Knives and Paper Mill Knives of every description.

TAYLOR, STILES & CO.,
 Riegelsville Warren Co., N. J.

M. A. RING & SONS,
 104 Broad St., Boston,
 FOOT OF FRANKLIN,
PAPER STOCK
 Importers and Dealers.

SOLE U. S. AGENTS FOR
FRAZERVILLE MFG. CO.'S
Ground Wood Pulp
 Flax, Hemp and Jute Waste, and new Rags of
 all kinds-SPECIALTIES.

B. LOEWENTHAL BROS. & CO.,
Paper Stock, Woolen Rags
 AND METALS.
 Old Rubber Boots and Shoes a Specialty.
 10, 12 & 14 NORTH CANAL ST., CHICAGO.
 LOEWENTHAL & MORGANSTERN,
 81 Beekman Street, New York.
 R. LOEWENTHAL, 101 W. Water St., Milwaukee.

DIRECTORY.

Cards under this heading will be charged for at rate of \$15 per annum for each card.

NEW YORK HOUSES.

Jute Butt Brokers. CABOT, RAY & CO., 81 Water st. DALAND, WILLIAM S., 124 Water st., N. Y. HANSON, CHARLES A., 97 Water st. TUCKERMAN, G., 72 Beaver st., N. Y.

Note Broker.

COLBY, C. A., Buys and Sells Notes of Paper Manufacturers and Dealers. 23 Nassau st., N. Y.

GOLDMAN, M., & SACHS, Negotiate the Notes of Mfrs. and Dealers of Paper. 4 & 6 Pine st., room 9.

Paper Stock Brokers.

O'BRIEN & DUPREE, Temple Court, 5 and 7 Beekman street, New York.

Paper Clay.

McNAMEE & CO., RICH'D, 334 Broadway, New York.

Paper Edge Oilers.

J. T. SHEPPERD & SON, 46 Centre St., New York. Estimates given for Gliding and Wrapping.

Paper and Paper Makers' Supplies.

BELDEN & DEAN, Paper Bags, Flour Sacks, Manila and Straw Papers. 144 Duane st., N. Y.

BUTLER & JOHNSON, 44 Beekman st., N. Y.

CROTTY, JOHN, Paper Dealer, 298 Broome st., N. Y.

HEWITT, C. B., & BROS., Printing, Wrapping, Building Papers. 45 Beekman st., N. Y.

HOAG, JOHN T., Tribune Building, Room 57, N. Y.

HUBBS, CHARLES, 36 Beekman st., N. Y.

HULBERT, H. C., & CO., 53 Beekman st.

MURPHY, JOHN J., 47 John and 5 Dutch sts.

PERKINS, WOODWIN & CO., 84 Duane st.

WATSON SUMNER & CO., 63 Beekman st.

Paper Manufacturers.

HAND, A. F., White and Colored Tissue and Copying Paper; mill at Peekskill. Paper Warehouse and office, 71 Beekman St., New York.

ORRS & CO., Printing and Hanging Mills at Troy. Roll Papers a Specialty. Office, 132 Nassau st., N. Y.

WEAD PAPER CO., News, Manila and Bogus Papers. 144 Duane st., N. Y.

Paper Makers' Chemicals and Colors.

HELLER & MERZ, Ultramarine, 55 Maiden lane, N. Y.

RIKER, J. L. & D. S., 45 Cedar st.

SERGEANT BROS., 132 Nassau st., N. Y.

Printed Wrapping Paper.

NUGENT, J. S. & CO., Also Paper Bags and Boxes. 536 and 540 Pearl st., N. Y.

E. O. STEVES & CO., also Paper Bags, Boxes and Twines, Grand Centre Streets, N. Y.

Rags and Paper Stock.

ATTERBURY BROS., 293 and 295 Front st.

BROWN, EDWARD J., 438 and 430 East 23d street.

CHARLES W. & BAEDER, 283 Pearl st., N. Y.

CORRIAN, PATRICK, 700 Second avenue, N. Y.

DALY, D., Rags, Paper Stock, Old Metals. 366 Water st., N. Y.

DARMSTADT & SCOTT, 49 & 51 Ann st., N. Y.

DONOVAN, DANIEL, & SON., Canvas, Rope and Rigging, 157 South St., N. Y.

FITZGERALD, JAS. M., 133 & 137 So. Fifth ave., N. Y.

FLYNN BROS., 61 Congress St., S. Brooklyn, N. Y.

GILDEA, PATRICK, 145 and 447 West 13th st.

HARLEY, CHARLES, Cotton and Woolen Rags, 382 Third street, New York.

HENNESEY, JAS. & CO., 534 Pearl st., N. Y. Warehouses, 110, 112 & 114 Navy st., Brooklyn, and cor. Union Ave. and N. 8th st., Brooklyn, E. D.

HILL, GEO. F., & CO., 953 Front st., N. Y.

HUGHES BR. S., 60-66 N 2d st., Brooklyn, N. Y.

KELLY, GEO. T., New Woolen and Cotton Rags, Remnants, Seconds and Woolen and Cotton Samples. 78 West Broadway. Established 1855.

LIBMANN, JOSEPH, & CO., New Rags a Specialty. 178 Centre st., N. Y.

LYON, J. W., & CO., 44 and 6 Duane st., N. Y.

LYON, JOHN H., & CO., 10 & 12 H-ade st., N. Y.

MAHARIN, M. A., Metals, 513 Washington st.

McGINNIS, HUGH, 59 & 61 Spring st., N. Y.

McQUADE, ARTHUR J., 585 & 587 E. 18th st., N. Y.

MORE, Geo. W., formerly with Geo. Harley, News Paper Stock, Rubber, &c., 59-65 Goerck st N. Y.

O'NEARA, M., 377 Water st., N. Y.

OVERTON, R. H., 69 Duane st., N. Y.

PARKER, S. WEBBER, & CO., Temple Court, 5 and 7 Beekman street, City.

RALL, WM. F., Cotton and Wool Waste, 35 Stone st., City.

RUSSELL, M., Domestic Paper-Stock of all grades. 30 City Hall Place.

SAVAGE, JAMES, JR., 580 to 586 W 88th st., N. Y.

SERGEANT BROS., 132 Nassau st., N. Y.

SMITH, JAMES F., Jute Waste a Specialty, 36 Peck Slip, N. Y.

WARD, OWEN, & SONS, 448 & 450 West 39th st.

WYNN, T. F., 13 and 15 Columbia st., Brooklyn, N. Y.

YOUNG, P., Washington Ave., nr. Wallabout Bridge, Brooklyn, E. D.

Straw Boards.

BUTTERFIELD, H. A., 548 Pearl st., near Broadway.

FITZGIBBONS, M. & CO., Straw Boards, Paper Box machinery and Lining Papers. 63 to 67 Crosby st.

HAYES, JAMES E., & CO., 75 Duane st.

OUT OF TOWN HOUSES.

Architects.

TOWER, D. H. & A. B.,—Paper and Pulp Mill Designs a specialty. Surveys and Plans made for Mill Sites, Dams and Canals. Holyoke, Mass.

Book Binders' and Paper Box Makers' Materials.

Cuts for Printers of Wrapping Paper, Flour Sacks, Etc.

ZIEBE, A., & Co., 105 & 127 Dearborn st., Chicago, Ill.

Dandy Roll Manufacturers.

BUCHANAN, BOLT & CO., Patent Seamless Wove and Laid Dandy Rolls, Holyoke, Mass.

CHENEY BIGELOW WIRE WORKS, Springfield, Mass. Pat. Seamless Wove and Laid Dandy Rolls.

Grindstones for Wood Pulp.

UNION STONE CO. (EMERY), Boston, Mass.

Paper Makers' Chemicals and Colors.

BLANCHARD, J. HENRY, Chemicals, Clays, Rosins, 101 Milk st., Boston, Mass.

Paper Cutters.

HOWARD IRON WORKS, Buffalo, N. Y.

Paper Makers' and Paper Stainers' Colors.

HAMPDEN PAINT & CHEMICAL CO., Springfield, Mass.

Paper Manufacturers.

JERSEY CITY PAPER CO., White and Colored Tissue & Manila Wrapping, 211 Wayne st., Jersey City, N. J.

SCOTT PAPER CO. LIMITED, 27 N. 6th st., Philadelphia. Flour Sack, Building & other Manila Papers.

Paper Making Machinery.

SMITH, WINCHESTER & CO., South Windham, Ct.

THE SIBLEY MACHINE CO., Norwich, Conn.

Rags, Paper and Paper Stock.

BRIGHT, ROBT. C., Woolen and Cotton Rags, Metals and Paper Stock, 55 Long Wharf, New Haven, Conn.

BULKLEY & CO. (Late with J. G. Dittman & Co.), 128 North Front Street, Philadelphia.

BUTLER, THOMAS, Cotton and Woolen Rags, Iron and Metals. 249 Causeway st., Boston, Mass.

CHATFIELD & WOODS, Mfrs. and dealers in Paper, Rags and Paper Stock. 35 W. 4th St., Cincinnati, O.

CLARK & IVES, Wholesale Dealers in Cotton and Woolen Rags, Paper Stock & Metals, New Haven, Ct.

ELLIOT, A. G. & CO., Paper and Paper Stock, 727 Chestnut and 726 Jayne sts., Philadelphia.

FOLLANSBEE, TYLER & CO., 389 and 391 Fifth ave., Chicago, Ill. Refer to J. W. Butler Paper Co.

FORESTELLE, P., 21 Wallace st., Bridgeport, Conn.

GARVAN, P., Paper & Paper Stock, Hartford, Conn.

HOME PAPER CO., Holyoke, Mass. dealer in Paper, Paper Stock, Rags, Woolens, Waste and Bargain.

LANEY, JAMES, & CO., Dealer in Paper and Paper Stock, Cotton and Woolen Rags, Rochester, N. Y.

MASSASOIT MFG. CO., Gunny and Shivey Bagging and Cotton Mill Sweepings. Fall River, Mass.

MAYO, A. N., & CO., Successors to Dickinson & Mayo, Rags and Paper Stock. Springfield, Mass.

McARDLE & HART, 134 to 128 Jane and 141 to 148 King st., New York, and Newburg, N. Y.

McKEON, P. & J., Dealers in Woolen & Cotton Rags, &c. 283 Fourth st., Brooklyn, E. D.

MILLET, GEO. W., Straw and Manila Papers, Paper Rags and Flour Sacks, 507 N. 3d st., Phila., Pa.

RICHMOND & CO., F. H., Paper and Paper Stock Warehouse, Cotton Waste Dealers, Providence, R. I.

RING, M. A., & SONS, 223 Atlantic ave. and 90 Purchase st., Boston, Mass.

SIMMONS, JOHN, Wholesale Dealer in Paper and Rags, 20 and 22 Decatur st., Philadelphia.

SNIDER'S, LOUIS, SONS, Manufacturers and Wholesale Paper Dealers. 121 Walnut st., Cincinnati, O.

WILCOX, JAMES M. & CO., Wholesale Commission Paper and Rag Warehouse, 509 Minor Street, Philadelphia, Pa.

Screen Plate Manufacturers and Repairers.

ANNANDALE SCREEN PLATE CO., Manufacturers and Repairers of Screen Plates. Paterson, N. J.

ASHMUN SCREEN PLATE CO., Old Plates renewed; charges moderate. P. O. Box 210, Paterson, N. J.

HARDY & PINDER, manufacturers of Patent Cast-Metal Sectional Screen Plates. Fitchburg, Mass.

JUDSON, HOWARD, 127 and 129 N. J. R. R. ave., Newark, N. J. New Patent Screen Plates.

Straw Boards.

PINKHAM, T., Agent for Androscoggin Pulp Co.'s White Box Boards and Ashland Leather Board, 34 Friend and 52 Elm streets, Boston, Mass.

TUCKER'S, E. SONS, Straw Boards, Paper, Twines, Paper-Box Mach'y, 100 Trumbull st., Hartford, Ct.

IMPORTATIONS OF PAPER STOCK, PAPER, BOOKS, CHEMICALS, &c.

IMPORTS of Paper and Paper Materials, Books, &c., at the Port of New York, for the week ended March 27, 1885. Quantity given in packages when not otherwise specified.

Aniline Colors..... 245 \$15,154

Alum..... 20 162

Aluminous Cake..... 400

Bleaching Powders..... 908 16,770

Soda Ash..... 1,585 28,201

Soda, Caustic..... 540 7,550

Soda, Sal..... 430 1,174

Ultramarine..... 54 795

Books..... 300 37,153

Newspapers..... 109 6,665

Engravings..... 61 16,373

Ink..... 50 694

Lead Pencils..... 5 1,618

Paper..... 158 13,027

Steel Pens..... 11 3,550

Stationery..... 11 950

Slate Pencils..... 270 3,248

Clay..... 1,077

Jute Butts..... 50,967 234,253

Paper Hangings..... 68 4,365

Paper Stock..... 4,758 53,604

Terra Alba..... 1,130

Waste..... 95 4,398

Wood Pulp..... 3,970 4,787

Totals..... 64,935 \$453,016

TOTAL IMPORTS.

General Merchandise for the week ended March 27, 1885..... \$5,59,816

Paper, Paper Stock, &c..... 15,074,852

For the year ended May 23, 1873..... 12,150,555

For the year ended May 23, 1874..... 13,209,801

For the year ended May 26, 1876..... 11,203,408

For the year ended May 25, 1877..... 9,627,494

For the year ended May 24, 1878..... 10,245,413

For the year ended May 23, 1879..... 9,571,091

For the year ended May 21, 1880..... 13,541,775

For the year ended May 27, 1881..... 14,371,508

For the year ended May 26, 1882..... 13,905,312

For the year ended May 25, 1883..... 14,028,155

For the year ended May 23, 1884..... 14,718,150

For quarter ended Aug. 26, 1884..... 3,853,449

For quarter ended Nov. 21, 1884..... 3,981,553

For quarter ended Feb. 20, 1885..... 3,569,075

For the week ended Feb. 27, 1885..... 309,800

For the week ended Mar. 7, 1885..... 226,023

For the week ended Mar. 14, 1885..... 103,790

For the week ended Mar. 21, 1885..... 925,190

For the week ended Mar. 28, 1885..... 453,016

Imports of Rags and other Paper Stock at the Port of New York, since January 1, 1885, from the following Ports, showing quantities from each Port:

Table with columns: Rags, Old Papers, Wood Pulp, Manila Stock. Rows: Amsterdam, Antwerp, Aspinwall, Bremen, Bordeaux, Bristol, Calcutta, Cadix, Copenhagen, Copenhagen, Dublin, Dundee, Genoa, Glasgow, Hamburg, Havana, Hiogo, Hull, Liverpool, London, Messina, Newcastle, Rotterdam, Pillau, St. Jago, Trieste, Yokohama.

a Including 219 bs. cotton waste and 117 bs. flax waste.

b Including 128 bs. cotton waste.

c Including 303 bs. flax waste.

IMPORTS of Rags and other Paper Stock at the Port of New York for the month ended March 31, 1885, from the following Ports showing Quantities from each Port.

Table with columns: Rags, Old Papers, Wood Pulp, Manila Stock. Rows: Aspinwall, Bremen, Cadix, Christiania, Copenhagen, Dundee, Glasgow, Hamburg, Hiogo, Hull, Liverpool, London, Messina, Newcastle, Trieste, Yokohama.

a Including 97 bales flax waste and 45 bales cotton waste.

b Including 128 bales cotton waste.

c Including 176 bales flax waste.

Special List of Imports of Paper Stock at the Port of New York for the month ended March 31, 1885.

Table with columns: Rags, Old Papers, Wood Pulp, Manila Stock. Rows: Baker, H. J., & Bro., Clark, W. Irving, Collier & Co., Demaziere, Henry, Fett & Sengstak, Galway & Casado, Harley, Charles, Hagemer & Brunn, Hatton & Co., E., Lawrence, Giles & Co., Liebman & Butler, Lead, T. H., Lewy Bros., Lyon & Co., J. W., Lyon & Co., J. H., Mason & Co., J. W., Neumark & Frank, Overton, R. H., Parsons & Co., W. H., Perkins, Goodwin & Co., Firmie, James, Rawitzer, S., Ring, M. A., Jr., Sullivan, Patrick, Taylor, John L., Townsend & Co., J. R., Train, Smith & Co., Warren & Co., S. D.

Totals..... 16,776 2,310 3,805 4,055

a Including 268 bales flax waste.

b Including 128 bales cotton waste.

EXPORTS of Paper, Books, &c., from the Port of New York to Foreign Ports for the Week Ended March 31, 1885, with Aggregates and Values.

BOOKS, cases, to Bremen, 1; to Liverpool, 43; to British West Indies, 5; to Mexico, 1; to United States of Colombia, 10; to Dutch West Indies, 1; to Antwerp, 7; to Glasgow, 8; to London, 14.

PAPER, to Liverpool, 15 cs.; to London, 13 pkgs.; 3 cs.; to British West Indies, 740 rms., 13 pkgs.; 1 cs.; to Mexico, 3,000 rms., 3 cs., 20 pkgs.; to Cuba, 615 pkgs., 20,500 rms., 6 cs., 7 bbls.; to United States of Colombia, 126 pkgs., 3 cs.; to Hamburg, 8 cs.; to Brazil, 4,325 rms., 1 cs., 45 bbls., 83 pkgs.; to Marseilles, 13 cs.; to Porto Rico, 2,100 rms., 2 cs.; to Venezuela, 17 pkgs.; to Bremen, 1 pkg., 2 cs.; to French West Indies, 100 rms.; to Hayti, 5 cs.; to Santo Domingo, 41 pkgs.; to Genoa, 8 cs.

STATIONERY, cases, to Liverpool, 35; to Mexico, 10; to United States of Colombia, 17; to British West Indies, 6; to Dutch West Indies, 1; to Bremen, 3; to Cuba, 12; to Porto Rico, 1; to Brazil, 3; to Antwerp, 13; to Venezuela, 7; to Santo Domingo, 5.

AGGREGATES AND VALUES.

Table with columns: Paper, reams, Paper, pkgs., Paper, cases, Books, cases, Rosin, bbls., Stationery, cases, Totals.

TOTAL EXPORTS.

Table with columns: General Merchandise for the week ended March 31, 1885, Paper, &c., for the year ended May 27, 1873, Paper, &c., for the year ended May 26, 1874, Paper, &c., for the year ended May 25, 1875, Paper, &c., for the year ended May 23, 1876, Paper, &c., for the year ended May 20, 1877, Paper, &c., for the year ended May 28, 1878, Paper, &c., for the year ended May 27, 1879, Paper, &c., for the year ended May 26, 1880, Paper, &c., for the year ended May 25, 1881, Paper, &c., for the year ended May 24, 1882, Paper, &c., for the year ended May 30, 1883, Paper, &c., for the year ended May 27, 1884, Paper, &c., for quarter ended Aug. 26, 1884, Paper, &c., for quarter ended Nov. 25, 1884, Paper, &c., for quarter ended Feb. 24, 1885, Paper, &c., for the week ended Mar. 3, 1885, Paper, &c., for the week ended Mar. 10, 1885, Paper, &c., for the week ended Mar. 17, 1885, Paper, &c., for the week ended Mar. 24, 1885, Paper, &c., for the week ended Mar. 31, 1885.

NEW YORK IMPORTS.

FROM MARCH 24 TO MARCH 31, 1885.

Paper Stock.

Fett & Sengstak, Camelia, Hamburg, 572 bs. rags. Lewy Brothers, by same, 82 bs. jute threads, 583 bs. rags.

John H. Lyon & Co., by same, 156 bs. rags. E. Hatton & Co., by same, 151 bs. rags.

Perkins, Goodwin & Co., by same, 50 bs. rags. Train, Smith & Co., by same, 21 bs. rags.

The Paper Trade Journal.

DEVOTED EXCLUSIVELY TO THE INTERESTS OF
The American Paper Trade.
Weekly, \$4.00 per Annum.

Single Copies, 10 Cents.

NEW YORK: SATURDAY, APRIL 4, 1885.

THE PAPER TRADE JOURNAL is the recognized organ of the various Paper Makers' Associations of the United States.

THE JOURNAL contains the latest and fullest information relative to the paper trade in all parts of the world, including descriptions of new appliances and processes for making paper, experiments with new fibres and other materials, a record of the water supply, with the latest manufacturing news in all parts of the country. It gives the cream of all the foreign technical journals which relate to the paper interest, besides communications from competent persons in the trade, both at home and abroad. The market review and quotations show the state of trade in all the principal cities, and no pains have been spared to make these accurate and complete.

Advertisements cannot be received for insertion in the current week later than 9 A. M. on Friday. The charge for advertising is 25 cents a line, each insertion. Special terms for standing and displayed advertisements to be had on application. Card in Directory Column and one copy of paper, \$15 a year.

Subscription and postage for Great Britain, 4s
Subscription and postage for France, per annum, 25 francs
Subscription and postage for Germany, per annum, 24 reichsmark
Foreign subscribers may address our New York office.

Communications on matters of interest to the trade are earnestly solicited from all quarters, and if used will be liberally paid for. Items of news and facts of all kinds in relation to the state of the mills, &c., will be gladly received.

All communications must be addressed to

HOWARD LOCKWOOD,
Publisher and Proprietor,
126 and 128 Duane Street, N. Y.

BRANCH OFFICES.

Western Office—CHAS. K. HAMMITT, General Manager, 113 EAST MADISON CORNER CLARK, STS., CHICAGO, ILL.
Philadelphia Office—W. M. PATTON, General Manager, 524 WALNUT ST.
Eastern Office—JOSEPH HAMMITT, General Manager, 290 DEVONSHIRE ST., BOSTON, MASS.
Southern Office—F. G. HANCOCK, General Manager, CORNER BROAD AND ALABAMA STS., ATLANTA, GA.

FOREIGN GENERAL AGENTS.

W. F. Catchside, London
Elfwing & Co., Stockholm, Sweden
John L. Sprague, Gibraltar, Spain
Leonardo Pardo, Vigo, Spain
G. Galvagno, Turin, Italy
S. Bernard, Venice and Florence, Italy
W. & P. Shepherd, Leghorn and Genoa, Italy
J. H. de Bussy, Amsterdam, Holland and the Dutch East Indies
John Hogan, Melbourne, Sydney and Adelaide, Australia
R. T. Wheeler, Dunedin, New Zealand
W. Snelling, Brisbane, Queensland
A. G. Webster, Hobart Town, Tasmania
Knight & Co., Newchwang, China
J. D. Clark, Shanghai, China
Sargent, Farsari & Co., Yokohama, Japan
Wm. B. Deming, Rio de Janeiro, Brazil
Camilo Garcia, Santos, Costa Rica
Caine y Carriaburu, Havana, Cuba
Seymour Keeler, Valdivia, Chili
Jose A. Barros, Barranquilla, Colombia
Carl Th. Bergmann, Copenhagen, Denmark
Edward Grauert, Montevideo, Uruguay
Bebenconat e hijos, Curagon, W. I.
J. O. Ryder, Tamatave, Madagascar
J. J. Coen de Lima, Port Louis, Mauritius
Joaquin G. Castilla, Tampico, Mexico
G. C. Cato, Durban, Natal
Thomas G. Thrum, Honolulu, Sandwich Islands
John G. Clark, Kingston, Canada
C. Haigh, Toronto, Canada
Henry W. Hughes, New Westminster, British Columbia

TO CORRESPONDENTS.

As THE PAPER TRADE JOURNAL is the recognized vehicle of communication in matters of trade interest, we will be glad to receive correspondence from all parts of the country. Information and suggestion upon paper-making topics are especially valuable, and manufacturing news and personal items are equally acceptable.

Readers of this paper who avail themselves of the information obtained from its columns, by advertisement or otherwise, are requested to notify their correspondents of the source of their information.

Subscribers to THE JOURNAL can be supplied with the best cloth binder in the market. Deliverable at the publication office. Price \$1.25.

AN exhibition to be known as the "Novelties Exhibition," will be held at Philadelphia during the coming fall, under the auspices of the Franklin Institute. It is intended to afford manufacturers and inventors an opportunity for bringing out the latest and best productions of their skill and genius. This project is commendable and ought to be well supported by those who are capable of making it successful.

SINCE the defeat of the claims of the Mitscherlich patent in Germany there has been a tendency in that country to weaker prices for fibre made by the bisulphite process. Fourteen new mills for the production of bisulphite fibre were started up in Germany last year, and an export demand for their product has arisen, shipments being made to England, France, Italy and Spain. Besides these new mills, there are sixteen others in course of construction. Isn't it about time that we had more than one mill, using the bisulphite process, in this country?

ACCORDING to a late report from Germany, the stock of rags in the United

States is enormous, and as the demand from this side is not urgent rags are said to be accumulating over there. On the other hand, our importers assert that stocks here are light. There is an anomaly in these statements which, perhaps, the brief memorandum of imports of paper stock during the past quarter may help to explain. Perhaps the foreign packers are better posted as to our supplies than our home dealers. Isn't there some reason for the unconcerned attitude of the paper-makers on the subject of rags?

IT may surprise some of our readers to be informed that the imports of paper stock at the port of New York for the three months ended March 31 of the current year were almost the same in quantities as for the corresponding quarter of 1884. This is shown by the following table:

IMPORTS, 1884.				
	Rags.	Old Papers, &c.	Wood Pulp.	Manillas.
January.....	14,213	2,806	5,812	5,366
February.....	19,477	3,533	5,660	6,220
March.....	11,070	2,945	1,464	5,066
Totals.....	44,760	9,284	12,936	16,652

IMPORTS, 1885.				
	Rags.	Old Papers, &c.	Wood Pulp.	Manillas.
January.....	24,081	1,449	9,735	4,054
February.....	4,430	5,301	1,973	3,358
March.....	16,776	2,320	3,805	4,055
Totals.....	45,287	9,070	15,513	11,467

The aggregate for 1884 was 83,571 bales, and for 1885 it was 83,208 bales. It will be seen from the figures given that the imports of rags have been sustained despite the regulations as to disinfection, and it is evident that the falling off in February was only due to the anticipatory arrivals in January. The decrease in the imports of manilla stocks has been nearly made up by the enlarged imports of wood-pulp. Altogether, we think that this showing is interesting and suggestive.

IT would be difficult for persons not familiar with paper-making to believe that dirty rags as they are furnished to the washer can be converted into the clean white paper which is rolling off the machine in the next room. Only people of long experience in the business can fully appreciate the constant vigilance necessary to accomplish this; but, notwithstanding all that can be done, there will be an occasional "run" of dirty or "specky" paper. If the circumstance of the manufacture of rags into paper is duly considered this is not surprising. All rags are more or less dirty. They are chiefly the remains of worn-out garments which have been cast aside, no special care having been taken of them. They are not only generally dirty, but every seam, corner, pocket and patch contains a modicum of dirt, and it is the business of the paper maker to get rid of this and all other matter inconsistent with making a clean, white sheet of good paper. The first step is in the selection of the stock. While unbleached new rags will produce a strong, substantial paper, they are difficult to bleach purely white, and the paper is liable to be more or less "specky," because of the black motes which appear in the cotton and fine shive in the linen, neither of which can be subdued by the ordinary boiling. Even bleached, new rags contain more or less of these small black specks and fine shive which will reappear in paper made from such rags. If a distinctively clean paper is desired, clean old rags are to be preferred. Country rags are more likely to possess the two prime qualities of strength and cleanliness than city rags. Clothing in the country is washed with an abundance of water and dried in the open air, whereas in the city, water is often limited in quantity or more sparingly used, and clothing is frequently cleansed by the use of chemicals, which injure the fibre, although they whiten the fabric. City clothing is also oftentimes dried indoors, and this deprives it of the beneficial effect of exposure to the free air and sunlight.

BUT the responsibility of the paper maker does not end with the selection of the stock. It is his office to watch it closely as it goes through the various processes to which it is subjected. All rags should receive a thorough cleansing by dusting before they are sorted and cut. There is no excuse for neglecting this important preliminary operation, inasmuch as there are several kinds of effective machines now available for that purpose. The next effective process in the line of making clean paper is to have the rags carefully sorted and cut in the rag-room. All material foreign to paper-

making must be thrown out; all heavy seams and patches must be ripped, and the pockets must be cut open, and the rags cut into pieces, from four inches to five inches square. Strings and narrow strips must be cut into lengths not exceeding four inches. If the rags have been thoroughly dusted before they are sorted and cut, a plain cylinder is preferable for the duster between the rag-room and the boiler. The management of the boiling process has much to do with making a clean white paper. An abundant supply of water must be used, and a sufficient quantity of lime, but the steam pressure should not be excessive. After the rags are boiled, they must be allowed time to cool and season somewhat before they are washed and reduced to half stuff. Next to rag sorting and cutting the operation of the washing-engine is of the greatest importance in tending to make clean or dirty paper. If the drawing out of the rags is unduly hastened it is difficult to wash out the dirt, and dirty paper is sure to result. The sand-traps must be used freely when the engine is first furnished, but they should not be disturbed after the rags have become partly clean, until the engine is emptied. If all of these operations have been performed with due care and attention the paper will be clean, unless some outside or accidental circumstance occurs to make it dirty. This may come from occasional dirty water, where no reliable means for cleansing the water are employed, or from negligence or mistake on the part of some of the help, although we are inclined to say that this does not often happen. Dirt falling from the ceiling is occasionally the unsuspected cause of "specky" paper, and this is liable to occur when the room over the engines is used for a rag-room or even for a store-room. When this is the case the ceiling should be doubled with an intervening layer of sheathing paper; the floor above should also be double and lined with sheathing paper.

PAPER-STOCK IMPORTS.

The total imports of rags and paper-stock at the port of New York during the month ended March 31, as reported, were 26,946 bales, an increase over the corresponding month of last year of 6,401 bales, and an increase, compared with March, 1883, of 2,096 bales. There was an increase over last year in rags of 4,806 bales. Manilla stocks show a decrease of 1,011 bales, and old papers an increase of 265 bales. Wood pulp shows an increase of 2,341 packages. The total figures in each class of stock, during the month of March, for the years 1885, 1884 and 1883, are as follows:

	1885.	1884.	1883.
Rags.....	16,776	11,970	9,771
Old papers.....	2,310	2,045	4,837
Manilla stocks...	4,055	5,066	10,242
Wood pulp.....	3,805	1,464
Totals.....	26,946	20,545	24,850

The arrivals from the different ports were as follows: Aspinwall, 145 bales rags; Bremen, 85 bales rags, 114 bales old papers, 96 bales manillas; Cadiz, 299 bales rags; Christiana, 900 bales wood pulp; Copenhagen, 2,250 bales wood pulp; Dundee, 483 bales old papers, 1,775 bales manillas; Glasgow, 84 bales old papers; Hamburg, 2,361 bales rags, 82 bales manillas; Hiogo, 7,324 bales rags; Hull, 1,983 bales rags, 53 bales old papers, 655 bales wood pulp, 384 bales manillas; Liverpool, 813 bales rags, 584 bales old papers, 1,545 bales manillas; London, 496 bales rags, 992 bales old papers, 82 bales manillas; Messina, 110 bales rags; Newcastle, 91 bales manillas; Trieste, 284 bales rags, and Yokohama, 3,876 bales rags.

Watermarks.

By DANDY.

The Secretary of the Treasury has deposed the inspector of rags at Alexandria, Egypt, for neglect of duty, in leaving his post for several days at a time, and allowing the so-called disinfection of rags to go on during his absence. This inspector was appointed to inspect rags disinfected by boiling and belonging to Butterworth & Smalley, of Manchester, England. His certificate would entitle the rags to come into this country without being disinfected here.

This is a very laudable proceeding. Daniel is "getting down to his work." But perhaps it didn't make any difference, so far as disinfection is concerned, whether the inspector kept his eye on the boiling or not. That is to be considered.

The next edict may be against the importation of jute butts. A vessel came in

this week, carrying a cargo of butts, and a number of the crew were down with cholera. What shall we do?

There is something mysterious going on in certain circles. Rumor hath it that a big company with a big capital is being formed, and that it will build works which will be devoted to the production of chemical fibre by the bisulphite process. Can anybody connected with the American Paper-Makers' Association tell what this rumor amounts to? Come, Colonel!

A British paper maker has been taking out a patent for an improved paper-making machine, the object being to make a machine which "will not produce the objectionable wire mark at the back, and moreover, by its use the web is not injuriously stretched in passing from the wire cloth to the succeeding rollers."

In this machine the upper couch-roll is dispensed with and an endless felt is employed instead; it passes over guide-rollers arranged in any suitable manner, and with suitable cleaning devices the felt comes into contact with the web or layer of pulp passing over the lower couch-roll; at the back, preferably over the couch-roll, there is situated a suction-box or exhaust device of the ordinary construction, and this draws the pulp from the wire, causing it to adhere to the felt. The web is then carried to the first pressing-felt; a suction-box may be used in conjunction with the latter, so that the web may be suitably guided.

A Philadelphia paper says that \$20,000,000 represent the amount of capital invested by the paper manufacturers of Philadelphia and its vicinity in their plant. Somebody beat the record, please. Now, Holyoke!

Talking about Philadelphia, I would like to know which member of a paper firm in that city is to be mistaken for Dominick McCaffrey, the prize fighter. I saw a bit of a newspaper story about this the other day and it was funny.

The "Quartermaster" is now no more. He has gone up, and will in future be addressed as the "Major." Hereafter he will take charge of the left wing, and perhaps he will not "get left." Who will be his successor in taking care of the girls who got left behind?

I have been handed the following reply to an inquiry founded upon a report in a so-called directory.

"Never bought a pound of rags in my life. Don't deal in paper stock. Can't understand why I get so many junk notices unless some 'Smart Alec' got mixed drinks and put my name in a directory."

Inasmuch as the party is a dealer in machinery, whose line is very remote from that of paper stock, it seems to me that he must be puzzled to know why he gets so many "junk notices." If a directory is good for anything, it ought to be good so far as it goes. Perhaps the compiler of the directory referred to did mix "suthin."

Trade Talks.

Leon Gottheil, representing Edmond Lausenbergh & Co., Ghent, Belgium and Rouen, France, Lewy & Stuck, Berlin, Germany, and Bendix Lewy, Konigsberg Germany.—"Business is quiet with the German and French packers, and we are not shipping much stock here, and accumulations are making. Prices have varied but little, and the market does not show much change. White rags are somewhat higher, and colored stock is weak."

W. H. Parsons, W. H. Parsons & Co.—"I am not interested in any new paper company nor in any chemical wood pulp mill, and you were misinformed when you were told that I was connected with either. Parties are now at work on a new ground wood pulp machine, the practical efficiency of which is as yet unknown, and I did say to them that I was interested in the question and one of these days was going to build a ground pulp mill, at the same time saying that I should like to see the working of the machine when it was tested. I do intend to erect such a mill for the manufacture of ground wood pulp, of which I am a large consumer, but the matter has not assumed any definite shape—not even as definite as has been this conversation."

J. S. Graham, Woolworth & Graham.—"We are getting more inquiries for paper, but business in stock is light. In other lines I hear of improvement. One woolen manufacturer in the western part of this State tells me that the beginning of the year matters were so dull that he called his traveling men in for conference as to what was the best course to pursue. Shortly after an order for \$5,000 worth of goods came in. His manager regarded this as a good omen. The travelers went out, with the result that the mill is now far behind its orders. He also says that other manufacturers in the same place are as busy as he is and that there seems to be a gen-

eral waking up. I also hear that the iron men are in better shape and are beginning to receive increased orders."

Failures.

W. J. Clark, stationer, &c., Montreal, Can., has made an assignment in trust.

M. E. Cooper, stationer, &c., San Francisco, Cal., has made an assignment.

A. E. Mellgren, engraver and printer, St. Paul, Minn., has made an assignment.

The Times Printing House, at St. Louis, Mo., has failed. The assets are valued at \$5,000.

D. McMaster, bookseller, &c., Sarnia, Ont., is offering to compromise for 33 1/2 cents on the dollar.

George A. Richardson, box manufacturer, Lynn, Mass., has failed and offers to settle at ten cents.

A receiver has been appointed for the publishing business of Harry C. Freund, New York city.

Alpaugh & Thompson, dealers in books, stationery, &c., at Trenton, N. J., have made an assignment.

Frank E. Bacon, printer, Boston, Mass., has failed and offers ten cents on the dollar. Liabilities about \$6,000.

The Journal Publishing Company, Redwood City, Cal., has suspended, and the parties interested in it have left town.

H. Goodman, stationery, &c., Hot Springs, Ark., has made an assignment to Frank Gross. His liabilities are \$3,600; assets the same.

Joseph L. Lyons, stationer and printer at Philadelphia, has become embarrassed, and execution has been issued against him for \$4,200.

Max Elser, stationer, Fort Worth, Tex., is asking an extension. He shows over \$50,000 surplus, his assets being \$96,000 and his liabilities less than \$40,000.

L. R. Yates & Co., paper hangers, &c., No. 1522 Broadway, New York, have made an assignment to Joseph J. Yates, Jr., preferring Charles A. Woolsey, \$1,174.46.

McAlpine Brothers & Co., Lee, Mass., on Monday last issued a notice that, finding they are unable to meet their obligations in full, and having decided to discontinue business, a meeting of creditors would be held in the office of Charles E. Hibbard, at Lee, yesterday afternoon.

The Hub Card Company, Boston, manufacturer of fancy visiting cards, magic trick-cards, &c., has failed, and is offering to compromise at ten cents on the dollar. Liabilities, about \$6,000, of which \$1,000 is secured on stock, machinery, &c. Mrs. E. M. Bacon is the nominal manager of the company.

L. R. Yates & Co., paper hangers, &c., 1,522 Broadway, New York, have assigned to Joseph J. Yates, Jr., preferring Charles A. Woolsey for \$1,174.46. The business was carried on in the name of Louisa R. Yates by her husband, who failed in December, 1883, when a partner in the firm of Seaman, Jones & Co.

The creditors of Frank Tousey, publisher, 34 North Moore street, held a meeting on Monday afternoon, at which fully ninety per cent. of the indebtedness was represented. Among the creditors represented were Armstrong & Russell, of Philadelphia; Meller & Flynn, C. W. Barnes & Co., Vernon Brothers & Co., American News Company, Campbell Press Company, Charles E. Johnson & Co., G. H. Morrell & Co., J. J. Murphy, W. H. Parsons & Co., Walker & Breslin, and Hand & Ellsworth. An agreement was reached, by the terms of which the business is to be continued under the direction of a committee of creditors consisting of Stillman R. Walker, of Walker & Breslin (he also remaining as nominal assignee); C. W. Barnes, of C. W. Barnes & Co., and David Scott, of Vernon Brothers & Co. Fifty per cent. of the secured claims is to be paid at once, while the remaining fifty per cent. is to go in with the unsecured claims, to be paid in installments as fast as a five per cent. dividend accumulates.

Fires.

The Sentinel Star, Coburg, Ont., has been burned out.

John P. Carr, publisher of the Tribune, Oxford, Ind., has been burned out.

F. R. Hilger & Co., dealers in wall-paper, Chicago, Ill., have been damaged by fire.

The office of the Kirklin News, Kirklin, Ind., was destroyed by fire on March 24.

The publishing house of Henry A. Sumner & Co., Chicago, Ill., has been damaged by fire.

Downer Banta's stationery store, Hunter's Point, L. I., was destroyed by fire on Monday night last.

Cassidy & Fitzpatrick's bookbindery, New York, was damaged to the extent of \$500 by fire on Saturday night last.

Henry Friedman's fancy box manufactory, Bleeker street and South Fifth avenue, New York, was destroyed by fire on Monday night last.

Tilton & Butler, publishers, 37 and 39 West

Fourteenth street, New York, were burned out on Tuesday morning. Loss, \$2,000, which is covered by insurance.

Samuel L. C. Rhodes, manufacturer of paper boxes and printer, Kansas City, Mo., has been damaged by fire and water. Loss estimated to be \$4,000; fully covered by insurance.

The Priley Building, Hale, Mo., occupied by Dulaney Brothers, stationers, and the Times Printing Company, was burned March 24. The losses are: Dulaney Brothers, \$500; the Times, \$700. Both are covered by insurance.

The large lithographing establishment of Schumacher & Ettlinger, at Mott and Bleeker streets, New York, was destroyed by fire on March 29. The large force of firemen, summoned by three alarms and some special calls, had hard work to gain the mastery, and, despite their efforts, the building and its contents were a total loss.

At Chicago, Ill., on Monday, a building occupied by the National Printing Company and Bradner Smith & Co., paper dealers, was burned. The National Printing Company lost all its presses and nearly all of its material, which makes its total loss \$160,000; insurance, \$114,000.

To prevent the cracking of glass tubes that are connected with steam-boilers to show the height of the water within, it is recommended that two glass tubes be used, one within the other. The air that is confined between the two serves as a protection to the inner tube against the outside cold and the outer one against the high temperature of the inner one.

SPECIAL NOTICES.

Insertions under this heading will be charged 50 cents a line. Payment invariably in advance.

EUGENE SULLIVAN, Packer of Rags and Paper Stock, 356 & 358, WATER STREET, NEW YORK.

THOS. BUTLER & CO., Rags, Paper Stock, Old Metals, Rubber, 219-223 CAUSEWAY ST., BOSTON, MASS.

Market Review.

OFFICE OF THE PAPER TRADE JOURNAL, FRIDAY, APRIL 3, 1885.

THE MONEY MARKET.—The stock market does not show any features of unusual importance and at the close, while business was dull, prices were fractionally better. Call loans ruled easy at 1/2@1 1/2c, closing at 1c. Commercial paper of first class is in good demand, but there is a somewhat limited supply.

THE PAPER TRADE.—The paper trade is in the same condition as it was last week, and there is little of interest to be noted in regard to it. As a general rule, trade is reported dull, although in some cases it is stated that there is an improvement which is just about appreciable.

DOMESTIC RAGS.—Holders of domestic rags are clinging to quoted prices, and there is a fair amount of business, albeit the parcels moved are not of over large proportions. No. 1 City Whites are still quoted at 3 1/2c, and No. 2 of the same goods at 2 1/2c, these prices being a trifle stiffened for special packings.

owing to the shut-down, are not fully replenished, the prospect is that soon there will be a better condition of affairs. The committee of the manufacturers appointed to go to Washington to secure the services of the Government in interposing an objection to the discrimination in Havana against American straw wrappings by increasing the duty, was assured by the Secretary of State that the Government would do all in its power to prevent the proposed augmented tariff.

JUTE BUTTS.—The market has been quiet and closes dull. There have been moderate sales to consumers at 1 1/2@1 1/2c, paper quality, cash and time, with sales of about 2,000 bales reported on spot and ex-ship here. Since our last report the Exporter, British Princess, Winnipeg and Cypromene have arrived here with 23,025 bales of butts, of which some 10,000 are unsold.

WOOD PULP.—Wood pulp continues in good demand, and prices remain as before. Poplar is quoted at 1 1/2@1 1/2c delivered, and Spruce at 2@2 1/2c, with 2 1/2c asked for special makes, whether poplar or spruce, by some makers. Foreign pulp is in good request, and the price remains at 1 1/2c ex-dock.

WOOD FIBRE.—Wood Fibre is in fair condition, and fares well because of the condition of the rag market. Values are firm and show no change, the best grades of bleached being quoted at 4 1/2c, and of unbleached at 3 1/2@3.80c.

FOREIGN RAGS AND PAPER STOCK.—The condition of the foreign rag market remains quite the same that it has been for some time, and the question as to who is right in their diagnosis of the case, the importer or the paper manufacturer, is still open.

CHINA CLAY.—English Clay is in better demand, but the inquiry is almost wholly to supply future wants. The market here is well stocked, but importers are firm in their views, owing to the scarcity of vessels at the source of supply.

COAL.—Anthracite remains in good shape, and if the fact of no stock be rated as of any value at all by the merchant, the condition of affairs never was better. Seward's Coal Trade Journal says: "We can see no good reason for anything other than a heavy year's tonnage, and if the producer is not sufficiently alive to the opportunities which are this season offering to give him a profit, he deserves never to have a stroke of good fortune again."

BAGGING, &c.—Gunny Bagging moves along as it did last week, and the market is without any excitement. There is a moderate trade composed of small orders, there seeming to be no disposition on the part of buyers to invest largely.

At 2 1/2@2 1/2c. There were this week imported 239 bales of Manillas, exclusive of butts. OLD PAPERS.—There is but little stirring in the old paper market, although a steady business continues. It is not of large lots, orders being almost wholly to supply present wants.

at 2 1/2@2 1/2c. There were this week imported 239 bales of Manillas, exclusive of butts.

OLD PAPERS.—There is but little stirring in the old paper market, although a steady business continues. It is not of large lots, orders being almost wholly to supply present wants. Values remain unchanged and are: No. 1 Hard White Shavings, 3 1/2@4c; No. 1 Soft White do., 3 1/2c; Old Ledgers, 2 1/2@2 1/2c; Solid Printed Books, 2 1/2@2 1/2c; Mixed Shavings, 2 1/2@2 1/2c; No. 1 Manillas, 1.75@1.87 1/2c; Light Book Stock, 1 1/2@1.30c; Folded News, 1 1/2@1 1/2c; Commons, 40@50c; Bogus Manillas, 65@75c; Straw Board Clippings, 60@70c; and Binders' do., 1/2@3/4c.

STRAW.—For Straw there is a fairly active demand, and previous figures are still in force. We quote: No. 1 Rye, 85@90c; No. 2 Rye, 65@70c; Oat, 50@60c.

ROSINS.—Prices are steady at about previous quotations, but only a moderate business is doing. We quote in lots from the yard: Common to Good Strained, \$1.40@1.45; E, \$1.50; F Good No. 2, \$1.60; G, \$1.72 1/2; H No. 1, \$1.95; I Good No. 1, \$2.55; K Low Pale, \$3.05; M Pale, \$3.80; N Extra Pale, \$4.42 1/2, and W G, \$4.92 1/2.

CHEMICALS.—Although the market has not been active, it has been quite busy, and there has been a fair inquiry for goods during the past week. Bleach still comes to hand and supplies are kept full. Sellers are disposed to stiffen prices, owing to firmness in the market abroad, but buyers are not willing to make any contracts at the advance.

CHINA CLAY.—English Clay is in better demand, but the inquiry is almost wholly to supply future wants. The market here is well stocked, but importers are firm in their views, owing to the scarcity of vessels at the source of supply. We hear of sales of 15 tons ordinary at \$13.75@14.50; 50 do. prime in bulk, to arrive, at \$15.50, and 50 casks extra, to arrive, at \$16.50. We quote: Extra, \$17.50@18; prime, \$16@16.50; medium, \$15@15.50; and ordinary, \$13.50@14. Southern, which is in moderate demand, is steady at \$11@11.50 for best grades, with reported sales of 48 casks within the range.

COAL.—Anthracite remains in good shape, and if the fact of no stock be rated as of any value at all by the merchant, the condition of affairs never was better. Seward's Coal Trade Journal says: "We can see no good reason for anything other than a heavy year's tonnage, and if the producer is not sufficiently alive to the opportunities which are this season offering to give him a profit, he deserves never to have a stroke of good fortune again."

BAGGING, &c.—Gunny Bagging moves along as it did last week, and the market is without any excitement. There is a moderate trade composed of small orders, there seeming to be no disposition on the part of buyers to invest largely.

At 2 1/2@2 1/2c. There were this week imported 239 bales of Manillas, exclusive of butts. OLD PAPERS.—There is but little stirring in the old paper market, although a steady business continues. It is not of large lots, orders being almost wholly to supply present wants.

The other companies say they will not meet these rates, but there are a lot of free lances who would like going into the Pennsylvania territory along the river, and these figures are made to keep this crowd out. There is a disposition not to issue price-lists. D. L. & W. Company's prices are said to be \$3.40 for Broken and Egg; \$4; for Stove; \$3.75 for Chestnut. The D. & H. Canal Company will continue to sell at the best advantage, and rates are quoted at \$3.30 for Broken and Egg; \$4 for Stove; \$3.60 for Chestnut; net f. o. b. A very fair trade in soft coal is reported, and prices are more satisfactory than they have been in the past.

PRICES CURRENT. NEW YORK MARKET.

Table listing various goods and their prices, including Paper Stock, Woolen Rags, Rags, Rope and Bagging, Shavings and Old Paper, English Old Papers and Shavings, English Rags, &c., and English Rags, &c.

Table listing various goods and their prices, including First Canvas Linen, Second Canvas Linen, Gunny Bagging, Burlap Bagging, Rope, Manila, Best Jute Threads, Clean Jute Threads, Clean Jute Ropes, Mixed Rope, Flax Tow.

Table listing various goods and their prices, including N S C. New Shirt Cuttings, S P F F. No. 1 Linens, S P F F. No. 2 Linens, S P F F. No. 3 Linens, F F. No. 1 Linens, Extra Fine Blue Linen, Light color, L F B. Blue Linens, Gunny Bagging, No. 1, Gunny Bagging, No. 2, C S P F F. No. 1 Cottons, C S P F F. No. 2 Cottons, C S P F F. No. 3 Cottons, C S P F F. No. 4 Cottons, C F X. Low grade Cottons, Extra Fine Cottons.

Table listing various goods and their prices, including Whites, ordinary, Blues, selected, Japanese Rags, Russian Rags.

Table listing various goods and their prices, including S P F F. No. 1 Linens, S P F F. No. 2 Linens, F G. No. 3 Linens, F F. No. 4 Linens, L X. No. 5 Linens, L F B. Blue Linens.

Table listing various goods and their prices, including Chemicals, Coloring Materials, Alum, lump, Alum, ground, Alum, porous, Aluminous Cake, Anti-Chlorine, Bi-Chromate Potash, American, Bleaching Powders, spot and to arrive, Caustic Soda, 70% cent, Clay, China, English, Clay, South Carolina, Clay, Terra Alba, French, Clay, Terra Alba, American, Corn Starch, Copperas, American, Extract Logwood, Mineral Fibrous Pulp, Orange Mineral, Potash, Prussian, Potash, American, Rosins, common to good strains, Rosins, good, No. 2, Rosins, low, No. 1, Rosins, No. 1, Rosins, good, No. 1, Rosins, pale, Rosins, extra pale, Sal Soda, English, Soda Ash, caustic, Spanish Broth, Sugar Lead, white, Sugar Lead, brown, Sulphuric Acid, 66% cent, Ultramarine, blue, German, Venetian Red, Vitriol, blue, Yellow Ochre, Rochelle.

BOSTON MARKET.

Table listing various goods and their prices, including Paper Stock, Mill Assorted Whites, Cotton Canvas, Cotton Canvas, No. 2, Gunny Bagging, No. 2, Shivey Bagging, Waste Woollens, Jute Butts, White Collar Cuttings, White Envelope Cuttings, Hard White Shavings, No. 1, Soft White Shavings, No. 1, Mixed Shavings (1/2 white), Imperfections, Book Stocks, Light Prints, Manila Papers, old, Hardware and Manilla, Straw Board Cuttings, Linen Canvas, White Shirt Cuttings, Country Mixed Rags, Country Mixed Rags, No. 2, City Whites, No. 2, Seconds, Country, Colors, Manila, Rope, Binders' or Tar Board Cuttings, Common Papers, Oakum Junk, Hemp Rope, Tarrad, Rigging, English Rags, &c., Essex Fines, London Fines, cotton, Outshots, cotton, Seconds, extra, Thirds, New Print Tabs, Checks and Blues, Light Prints, Light Fustians, Dark Fustians, Black Calicoes, Gunny Bagging, No. 2, Gunny Bagging, No. 2, Rope Manila, tarred, Jute Ropes, Jute Threads, English Old Papers and Shavings, Hard Shavings, No. 1, Soft Shavings, No. 1, White and Colored Shavings, No. 1, White and Colored Shavings, No. 2, Cream Post Shavings, Paper Collar Cuttings, Ledgers, Newspapers and Pamphlets, extra, Old Newspapers and Pamphlets, Broken News and Letters, New Books, solid folios, Old Blank-Books, Old Printed Books, White and Buff Railway Sheets, Railway Tickets, New Papers, Superfine Book, Fine Book, News, rag and wood, News, straw, News, No. 1, all rag, Manila, No. 1, Rope, Manila, Extra Jute, Manila, Jute and Gunny, Manila, No. 2, Manila, Bogus, Hardware, No. 1, tarred, Hardware, red, Straw Boards, air-dried, Straw Boards, steam-dried, Straw Wrapping, heavy, Straw Wrapping, light, Binders' Boards, Leather Board, Common, Leather Board, counter, Leather Board, extra, Far Boards, P P, No. 1 Linens, S S, No. 2 Linens, T T, No. 3 Linens, P, No. 1 Cottons, S, No. 2 Cottons, T, No. 3 Cottons, Whites, Alexandria Rags, Blues, Colors, Whites, Smyrna Rags, Blues, Reds.

Constantinople Rags.	
Whites, No. 1	1.50
Whites, No. 2	1.40
Blues	1.30
Reds	1.20

Chemicals.	
Alkali, 36 cent.	1.55
Alum, American ground	1.40
Alum, American lump	1.30
Anti-Chlorine	3.00
Bi-Chromate Potash, American	10.00
Bleaching Powders	1.50
Blackley Blue	2.00
Caustic Soda, 70 cent.	1.40
Clay, English, 1/2 ton	1.75
Clay, American, 1/2 ton	1.50
Coppers, American, 1/2 lb.	7.00
Extract Logwood	7.50
Lime, Rockland, 1/2 lb.	9.00
Prussian Blue, 1/2 lb.	50
Prussiate Potash, American, yellow	50
Prussiate Potash, red	51
Rosin, common strained, 1/2 lb.	1.50
Rosin, No. 2	1.20
Rosin, No. 1	1.80
Rosin, pale	2.50
Rosin, extra pale	3.00
Sol Soda, English, 1/2 lb.	1.05
Soda Ash, 48 cent. carbonated	1.50
Soluble Blue	55
Sugar Lead, white	10.50
Sugar Lead, brown	10.00
Sulphuric Acid, 66	1.40
Terra Alba, 1/2 ton	15.00
Ultramarine, 1/2 lb.	16
Venetian Red, 1/2 lb.	14.00
Vitriol, Blue	4.50
Yellow Ochre	1.50

CHICAGO MARKET.

Paper Stock.	
Wholesale Dealers' Selling Price.	
No. 1 whites	4 1/2 @ 4 3/4
No. 2 whites	3 3/4 @ 3 5/8
Thirds and blues	2 1/2 @ 3
Print rags	2 1/2 @ 2 3/4
No. 1 book paper	2 @ 2 1/2
No. 2 book paper	1 1/2 @ 2
News	1.00 @ 1.25
No. 1 manilla	1 1/2 @ 1.50
Print papers	60 @ 65
Straw papers	15 @ 20
White shavings	3 @ 3 1/2
Mixed shavings	2 @ 2 1/2
Paper.	
Plate	13 @ 15
Super-Calendered, white and tinted	10 @ 10
Fine book, white and tinted	7 1/2 @ 8
Color Glazed Mediums	7 @ 8 1/2
Rag News No. 1	6 1/2 @ 7 1/2
Ordinary Rag News	6 1/2 @ 7
Straw and Wood News	5 1/2 @ 6
Bleached Manilla, No. 1	6 1/2 @ 7
Ordinary Manilla	6 1/2 @ 7
Bogus Manilla	4 1/2 @ 4 1/2
Straw Wrapping	2 1/2 @ 2 1/2
Hardware Wrapping	2 1/2 @ 2 1/2
Tissue Manilla, 24 x 36, full count	1.00 @ 1.00
Tissue, white, 20 x 30	1.00 @ 1.00
Tea Papers, 12 x 30	6 @ 7
Tea Papers, 12 x 18	6 @ 7
Tea Papers, 12 x 16	6 1/2 @ 7
Straw Boards, air-dried, 1/2 ton	45.00 @ 45.00
Straw Boards, steam-dried, 1/2 ton	30.00 @ 35.00
Wood Pulp Card middles	6 1/2 @ 8

Advertisements.

THE WRITER IS MAKING PAPER KNIVES, and Shafting, Gearing and Pulleys, Engines and Pumps.

GEO. C. HOWARD.

18th St., N. of Chestnut St., Philadelphia.

WANTED.—POSITION BY FIRST-CLASS Fourdrinier or cylinder machine-tender; can furnish best of references. Address G., care Paper Trade Journal.

WANTED.—POSITION AT ONCE AS MACHINE TENDER; can run cylinder machine; 10 years' experience; steady and reliable. Address "C. M.," care of Paper Trade Journal.

WANTED.—ONE WHO IS FAMILIAR WITH Rope Manilla Papers; can reach and work the consuming trade direct in and about New York City; large list; these papers to sell from; salary or commission; permanent position to the right party. Address "E.," this office.

WANTED.—SITUATION AS FOREMAN IN manilla, news, book or chemical pulp mill; first-class references; have had charge of mills for 20 years. Address J. W., care of Paper Trade Journal.

WANTED.—AN EXPERIENCED MANILLA board maker; steady work for right party; write, furnishing recommendations and stating wages. Syracuse Paperware Co., Syracuse, N. Y.

WANTED.—SITUATION BY ONE THOROUGHLY acquainted with the manufacture of binders' boards, in the East; competent for any part; best references as to ability and character. Address M. E. C., 19 Brookfield St., Cleveland, Ohio.

WANTED.—SITUATION BY EXPERIENCED double-cylinder machine-tender; also, experienced second hand on cylinder wants situation on Fourdrinier running fine papers; to learn more object than big wages. Address Box 526, Chester, Va.

WANTED.—BY A YOUNG MAN WITH EXPERIENCE in wood news and ground wood mills, a situation on stock in either mill.

Address A., Box 1255, Boston, Mass.

FOR SALE.—A NEW FIREPROOF MODERN mill with all the latest improvements; two tons manilla duster; water power; freight to New York, 10c.; full of orders. Address JUTE FIBRE, Journal office.

SECOND-HAND SCREENS BUT A LITTLE used; with two screens; boxes and copper pipe connecting the same; size of screen boxes each 20 x 60, for six plates, 10 x 50; Rice, Barton & Faies' make, and sold at a bargain.

J. T. EMERSON, Agent, Claremont, N. H.

FOR SALE CHEAP.—ONE CORLISS BEAM Engine, 30 x 45, geared. One Horizontal Corliss Engine, 16 x 42. One Horizontal Corliss Engine, 16 x 48. One Horizontal Tubular Boiler, 16 in. x 17 ft., complete. One 80 H. P. Corliss Upright Boiler, with Smoke Pipe. Several Steam and Rotary Pumps. One three ton Steelyard Scale Fairbanks.

D. B. CRUICKSHANK, 243 Dyer St., Providence, R. I.

AT AUCTION, ON WEDNESDAY, MAY 13, 1885, at 11 1/2 o'clock, P. M., on the premises, PAPER MILL, situated 1 1/2 miles from New Milford, Conn., consisting of one 48-in. Double Cylinder Machine, seven Dryers, 36 in. in diameter; 2 Stack Calenders and Cutter complete, 40 horse-power Boiler, Steam Engine (15 horse-power) used for machine, two 400-pound Beating Engines, one Jordan Engine, Rag Cutter, Rag Duster, Rotary Boiler, Rolling Stock Chest, 30-in. Leflet Water-Wheel, improved, under a head of 18 1/2 feet; about nine acres of land including the pond; the buildings are frame—two dwelling-houses, barn and carriage house; plenty of water, and of the best quality, with a reservoir that is four miles long and will average half a mile wide, which can be drawn down about 7 1/2 feet; power enough for another beater. For particulars address C. A. TODD, New Milford, Conn.

FOR SALE.—A RAILROAD DUSTER, 18 FEET long, with 5 rolls; has been used but two months; reason for selling is to replace with a larger one; can be seen in operation at the mill.

DAGER & COX, Bridgeport, Montgomery Co., Pa.

FOR SALE OR TO RENT.—A SMALL MILL for making straw or binders' board.

Address BOARD MILL, Box 51, Elbridge, N. Y.

FOR SALE VERY CHEAP TO CLOSE OUT an estate—the wet part of a 72-inch Fourdrinier Machine, nearly complete and other things, by DERRICKSON, 33 Beekman St., New York City.

CHEMICAL PULP BOILER WANTED.—Rotary or vertical, about 24 x 7 feet diameter; must be in first class order. Apply by letter, with full particulars and price.

Address BOILER, Office Paper Trade Journal.

FOR SALE.—ONE SANBORN PAPER CUTTER, 44-inch knife, for hand or power. Three dryers, 36-in. face, 36-in. diameter; stands and frame complete. J. ROBERTSON, Trustee, New London, Conn.

FOR SALE.—TWO CYLINDER WHEELERS, complete for 40-in. engines; one Snow Water-wheel Governor; one E. W. Ross largest size Straw Cutter; one Knowles Steam Pump, 2 1/2-in. water cylinder; one new Alkali Pan, 20 x 6 ft., 2 ft. deep, of iron, 3-16 thick; two 300-pound Mixing Engines; two Daniels' Stock Cutters; complete apparatus for mixing Bleaching Powders in three tanks; two Rubber Rolls, 63 in. long 7 in. diameter; 2 Rotary Rollers, 7 x 19 ft., with driving gear; one 35-in. Whitney Turbine Wheel; one 30-in. National Wheel; one 20-in. National Wheel. All of above in good order. Will be sold very cheap for cash.

T. G. CARROLL, Mill River, Mass.

FOR SALE.—ONE 12-INCH SWAIN TURBINE Water Wheel, with quarter turn iron case, but little used. One 25-in. Houston Wheel, with quarter turn iron case and metal gate gearing, good as new. Two Hammond Cutters, but little used, lately made by the Holyoke Machine Co. in perfect order. Four Copper Dryers, 28 x 72. All of which will be sold at low prices. Address P. O. box 148, Boston, Mass.

PAPER MILL FOR SALE.—THIS MILL IS in good running order; capacity, three tons per day; has been making carpet lining and sheathing, and will be sold complete at a bargain.

Address ACUBHNET PAPER CO., New Bedford, Mass.

FOR SALE.—ONE 48-INCH FOURDRINER Machine, from vat to cutter inclusive, with all the shafting and gearing for driving. Is quite a modern machine, has a good drying surface, two stacks of chilled rolls, revolving reels and cutter, and will be sold cheap. Also a good Cylinder Wet Machine, mold as good as new. Write for particulars, or come and see the machines.

SMITH, WINCHESTER & CO., South Windham, Conn.

FOR SALE.—54 INCH CYLINDER MACHINE.—Consists of a Six-plate Screen, two Cylinder Molds and Vat, three iron and one wood Press Rolls, six Dryers 36 in. diam., 54 in. face—two Stacks of Calender. Revolving Reels, Stop Cutter and Driving Train, all in good order. Smith & Winchester Co.'s make. For further particulars address

THE BLACK & CLAWSON CO., Hamilton, Ohio.

FOR SALE, AT LESS THAN HALF PRICE. One Woodruff & Beach Steam Engine, 30 x 48, with Condenser; 44-inch Leflet Water-Wheel, special build brass buckets; two Regulators for Machine Wheels, made by Snow; one 4-inch brass Stuff Pump; one 36-inch Holyoke Trimming Press, just right for folded papers.

HURLBUT PAPER CO., South Lee, Mass.

FOR SALE.—THREE 18 x 70, SIX 6 x 48, ONE 15 x 62, and four 6 x 24 Chilled Iron Rolls; two 12 x 30, three 10 x 41, three 12 x 48, four 12 x 54, two 12 x 56-in. Common Iron Rolls. Ironwork for five engines, Rolls 36-in. diam., 40-in. face, lighters, back-stands and plate boxes; two Engine Rolls, 28 x 30, with Lighters and Stands; one Fourdrinier (wet part) Wire, 62-in. wide; set of Rubber Deckle Straps, 22 ft. 8 in. long, 1 1/2 in. square, in good condition; two Suction-boxes, with brass tops; one set of six 28 x 68-in. Dryers, with frames, rolls, gears, steam-pipes and packings complete; one 20 x 36 in. Cylinder Mold, all in first-class order. Address BOSTON MACHINE MFG. CO., Granite, cor. First St., South Boston, Mass.

MACHINERY.—68-IN. FOURDRINER Machine, good width and extra strong; Paper Engine, 32 x 22, large new Cedar Tub, Screw Press, Hydraulic Press, 49 x 27; 3 Pratt's Steam Traps, Holyoke Duster, 15 x 5 feet; good 35-in. Houston Water-Wheel, two cheap Water-Wheels, Hydraulic Ram, two 62-in. Suction Boxes, two Copper Filters, four Screen Plates, 12 x 30; Flat and Hope Pulleys, Gears, &c., &c. PLATNER & PORTER MFG. CO., Unionville, Conn.

FOR SALE.

One Iron Rotary Bleach, 18 x 6 ft.; Two Brass Cylinder Machine Molds, 50 in. face, 30 in. diam.; two Iron Horizontal Pumps, No. 8; one Pickett Pulp Machine; four Chilled-Iron Calender Rolls for 84-in. Machine, 6 in. diam.; six Chilled-Iron Calender Rolls for 72-in. Machine, 6 in. diam.; three plain Iron Calender Rolls for 72-in. Machine, 1 1/2-in. diam.

SMITH PAPER CO., Lee, Mass.

FOR SALE.

The undersigned will dispose of one second-hand copy of HOFMANN'S TREATISE ON PAPERMAKING. It is in very good order, having been but little used. Address HOFMANN, care of Paper Trade Journal, New York.

FOR SALE.

A 48-inch, double cylinder, sixteen-Dryer Machine; can be finished up to suit purchaser. For particulars address

THE BLACK & CLAWSON CO., Hamilton, Ohio.

FOR SALE.

ONE 72-INCH FOURDRINER PAPER MACHINE, complete in all its parts and now ready for delivery. For printed description and full particulars, apply to

ORRS & CO., Troy, N. Y.

Manufacturing Plant for Sale Cheap.

The property consists of 12 acres of land, with dam, flumes and buildings, nearly new; three factory buildings, five tenements, never-failing water-power, double-track railroad siding at the doors. Unexceptionable freight facilities to all points. The property is well adapted to paper manufacture. For further particulars address "B.," No. 60 Walnut St., Hartford, Conn.

MILL COGS.

Cogs on shortest possible notice; good timber; true to pattern.

N. P. BOWSER, South Bend, Ind.

PURE NATURAL LUBRICATING OIL

For paper mills. Does not gum or chill in cold weather and wears as well as lard oil; is used extensively by paper manufacturers throughout the United States, and gives perfect satisfaction; send for sample barrel; price, 80 cents per gallon.

Address FRANKLIN OIL WORKS, Franklin, Pa.

HAVING JOB LOTS OF FINE OR COARSE PAPER will find it to their advantage to communicate with

N. C. LYON, JR., No. 55 ANN STREET, NEW YORK.

LINK-BELT MACHINERY
NEW YORK CHICAGO ST. LOUIS, MO.
Elevators and Conveyors for Wood Chips. Improved Appliances for Elevating and Conveying Rag, Straw, Manila and Wood Pulp.
Estimates furnished on application. Send for 144-page Catalogue, with full illustrations.

BRANCH HOUSES: 81 John Street, New York. Minneapolis, Minn.

Improved LOG HAUL for Pulp Mills. LINK BELTS for Transmitting Power.

PAPER MILL MACHINERY Of Every Description, and STEAM ENGINES, R. O. MOORHOUSE & CO., Thirteenth and Buttonwood Sts., Philadelphia.

FOR SALE—CHEAP. One 48-inch Harper Fourdrinier Machine. One 1200-lb. Washing Engine and Tub. One 1200-lb. Washing Engine, iron work only. Two 300-lb. Mixing Engines. One Steam Boiler, 6 1/2 x 30 feet. Two Rag Rotary Boilers, 4 1/2 x 16 feet. Two Straw Rotary Boilers, 6 x 20 feet. Two 60-inch Risdon Turbine Water-Wheels. One 60-inch Barber Turbine Water-Wheel. One 48-inch Barber Turbine Water-Wheel. One 40-inch Barber Turbine Water-Wheel. One 4-inch Double Plunger Pump. One 4-inch Single Plunger Pump. Eight 72-inch x 12-inch Pulleys. One Norwalk Portable Engine and Boiler (15 H. P.).

HUDSON RIVER WATER-POWER AND PAPER CO., MECHANICVILLE, N. Y.

FOR SALE, LEASE OR COPARTNERSHIP.

I have one of the BEST AND MOST COMPLETE PAPER MILLS in the United States, having just been put in thorough repair; a very large proportion of the machinery is ENTIRELY NEW. The Machine is a 72-inch Fourdrinier, and everything in readiness to start up.

I will sell the whole property, including Land, Buildings and Machinery, or I will sell the Machinery alone; or to the right party I would take a half interest in running the mill, feeling confident that it can be made a profitable business. I am not a practical paper maker, and will offer great inducements to any one desirous of making such an investment.

Address SAMUEL P. HAMILTON, Savannah, Ga.

ESTABLISHED 1854. DEVINE'S STEAM BOILER WORKS, Nos. 383 to 393 South Canal Street, CHICAGO.

PETER DEVINE, Proprietor.

Scotstown Chemical Pulp and Paper Co., SHERBROOKE, P. Q., CANADA.

MANUFACTURERS OF SPRUCE, BASS and POPLAR PULPS. Send for Samples and Prices.

A. G. LOMAS, PRES. WM. FINLAY, MGR.

UNBLEACHED CHEMICAL WOOD FIBRE STRONGEST AND BEST MADE BY McCREADY BROS., 503 Commerce Street, Philadelphia.

PAPER, PAPER BAGS AND FLOUR SACKS. FRANCKE

Chemical Sulphite Wood Pulp. THE EQUAL OF HAGS AT A LOWER PRICE.

Highest Award (Silver Medal) at the Forestry Exhibition, Edinburgh, 1884.

AT THE ABOVE EXHIBITION, JUST CLOSED, where this Pulp was exhibited by the Scottish Paper Makers' Association, it obtained the Highest Award for the Best Paper Material derived from Wood.

THE FRANCKE FACTORIES (at Molndal, near Gothenburg, Sweden) are now able to turn out daily 35,000 pounds of this Pulp. Shipments to America by weekly steamers. Transshipment at Hull, England. Orders for this Patented Sulphite Pulp may be addressed to, and further particulars received from,

J. J. FRANCKE, 120 Front Street, New York.

A PAPER MILL For Sale or Rent, WITH MACHINERY.

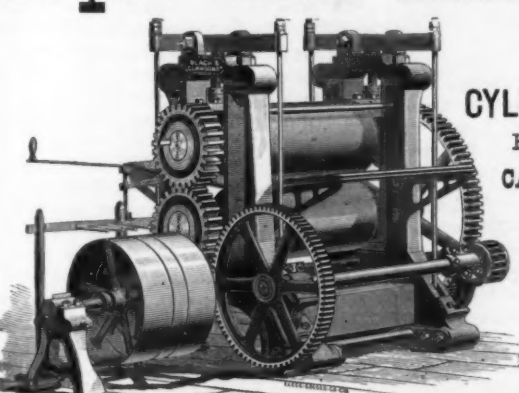
Address G. M., Office of the Paper Trade Journal.

FOR SALE. THE PATENT FOR Machine for Water-Marking Paper AND ONE MACHINE.

This is a "bed-rock" patent, and the only one ever granted for water-marking paper by printing upon it with a flat surface. Dispenses with the use of "Dandy-Rolls" upon the "Fourdrinier" machine. Investigation solicited. Satisfactory reasons given for selling. Address,

G. H. MOORE, Norwich, Conn.

THE BLACK & CLAWSON CO., MANUFACTURERS OF Paper Mill Machinery, FOURDRINER AND CYLINDER MACHINES, Beating and Washing Engines, CALENDERS, CUTTERS, STUFF AND FAN PUMPS, Reels, Rag Cutters, Screens, Screen Plates, Ream Cutters, Cylinder Molds, Wire Cloth, Dandy-Rolls, Deckle Straps, Perforated Drainer Bottoms, Stuff-Box Trucks, Track, Turn-tables, Iron and Brass Castings.



ADDRESS THE BLACK & CLAWSON CO., Hamilton, Ohio.

W. S. TYLER WIRE WORKS CO., Successors to W. S. TYLER, MANUFACTURERS OF Fourdrinier and Cylinder Wires, DANDY ROLLS, &c. Cleveland, Ohio.

W. S. TYLER, Pres. E. H. ALLEN, Sec. and Treas.

CYRUS CURRIER & SONS, NEWARK, N. J. General Machinists, Founders and Engine Builders.

PAPER MACHINERY A SPECIALTY. Fourdrinier and Cylinder Machines, Chilled Iron and Paper Calenders, Beating and Washing Engines, &c. All Steel Roll Bars and Plates cheaper and better than Laid Bars.

KINGSLAND BEATING ENGINE, THE BEST AND CHEAPEST. UPWARD OF TWO HUNDRED IN USE.

GUARANTEE SATISFACTION. 30 DAYS' TRIAL. THE ORIGINAL IMPROVED

Baldwinsville Centrifugal-Pump

Being practical machines for the past twenty-five years, we feel confident we can give the best work as to price and quality in the guarantee our pumps and most perfectly reliable in the purchase of PAPER MANUFACTURERS.

Our Patterns are New and of the Best Design. Our Shop has been fitted up with New Tools and Appliances of the best manufacture.

Manufactured by BOGGS & CLARKE, 123 & 125 South Clinton Street, Syracuse, N. Y.

BOSTON MACHINE MFG. COMPANY, Office and Works, Granite, cor. First St., Boston, Mass., MACHINISTS, IRON AND BRASS FOUNDERS, MANUFACTURERS OF PAPER MACHINERY OF EVERY DESCRIPTION.

FOURDRINER, CYLINDER and LEATHER BOARD Machines, IMPROVED Washing and Beating Engines, Roll Bars, Bed Plates, Plunger and Fan Pumps, Rope and Rag Cutters, Bundle and Stop Cutters, CHILLED IRON and GUN METAL COVERED ROLLS a specialty; also Iron Rolls furnished, covered with RUBBER, by James B. Forsyth's process.

HARPER'S IMPROVED FOURDRINER. LARGELY INCREASED facilities for Grinding Rolls.

CHARLES CARR, VICE-PRESIDENT AND MANAGER. HENRY P. EATON, SUPT. PAPER MACHINERY DEPT.

SANDY HILL IRON AND BRASS WORKS, Sandy Hill, Washington County, N. Y., MANUFACTURERS OF

PAPER MILL MACHINERY Fourdrinier and Cylinder Paper Machines of extra heavy pattern. Stock Engines, Rag, Rope and Jute Cutters, Stuff and Fan Pumps, Chilled Calender Rolls, Gun Metal Rolls, Wood Pulp Machinery of all kinds, Water Wheel and general Mill work. Rolls reground by patent process.

HARPER'S IMPROVED FOURDRINER MACHINES.

F. D. WHITE,

Successor to L. HOLLINGSWORTH & Co

No. 75 Federal Street, Boston.

MANUFACTURER OF AND DEALER IN

BOOK, ROPE AND MANILLA

PAPERS and TWINE

JOB LOTS SUPER-CALENDERED and MACHINE

FINISH Book Paper, constantly on hand

ROPE MANILLAS A SPECIALTY.

RECORDING PRESSURE GAUGE.



It records the pressure and all its variations; showing the time of each and every change of pressure. Will send one on trial. WRITE FOR CIRCULAR.

S. P. JONES,

28 School Street, Boston, Mass.

H. DE MAZIERE,

No. 41 Broad Street, New York,

IMPORTER OF

SWEDISH,

NORWEGIAN,

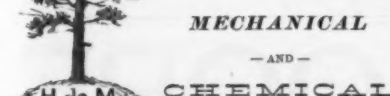
And GERMAN

MECHANICAL

—AND—

CHEMICAL

WOOD PULP.



H. de M.

WOOD PULP.

FILTERING STONES. In Use in the Leading Paper Mill



For Circularity and Prices, address the Mfr.

SAMUEL SNELL, Holyoke, Mass.

—PURE—

Chemical

WOOD FIBRE

SUITABLE FOR

Fine News, Book and Writing Papers.

DRY IN ROLLS.

MANUFACTURED AND FOR SALE BY

The American Wood Paper Co.

For Samples and Terms apply to

E. EMBREE, Agent,

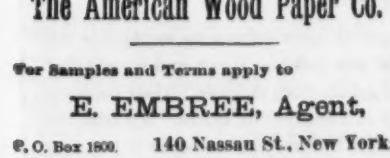
P. O. Box 1800. 140 Nassau St., New York.

ESTABLISHED 1840.

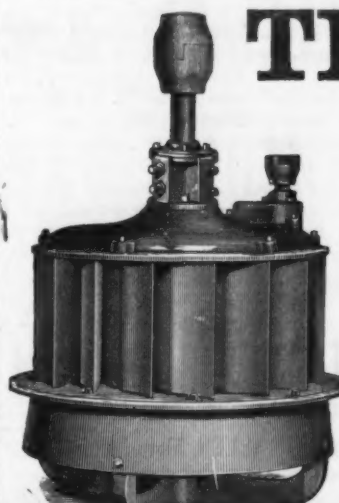
GEO. J. BURKHARDT'S SONS'

CEDAR TANK FACTORY,

2831 to 2839 N. Broad Street, Philadelphia.



Boiling Tubs, Stuff Chests, Water Tanks, &c., for Paper Manufacturers.



THE VICTOR TURBINE.

In use in a large number of best Paper and Pulp Mills in this and other Countries.

On view at Permanent Exhibition of Mill Machinery, 36 Broadway, New York.

Possesses more than Double the Capacity of other Water Wheels of same diameter, and has produced the Best Results on Record, as shown in the following tests at Holyoke Testing Flume:

SIZE WHEEL	HEAD IN FEET.	HORSE-POWER.	PER CENT. OF USEFUL EFFECT
15-inch	18.05	30.17	.8922
17½-inch	17.95	36.33	.8920
20-inch	18.21	49.00	.8922
25-inch	17.90	68.62	.8924
30-inch	11.65	52.54	.8976

With proportionately High Efficiency at Port-Gate.

Such results, together with its nicely-working gate, and simple, strong and durable construction, should favorably commend it to the attention of ALL discriminating purchasers. These Wheels are of very Superior Workmanship and Finish, and of the Best Material. We also continue to manufacture and sell at very low prices, the

ECLIPSE DOUBLE TURBINE,

So long and favorably known. State your requirements, and send for Catalogue to the

STILWELL & BIERCE MFG. CO.

DAYTON, OHIO, U. S. A.

STANDARD PAPER BAG CO.,

46 Federal Street, } BOSTON, MASS.,
147 Congress Street, }

Manufacturers of Patent Machine-Made

SACHEL-BOTTOM PAPER BAGS.

"STANDARD'S CHALLENGE."

THESE BAGS ARE EXTRA STRONG, FULL COUNT, FULL WEIGHT. Each Bag numbered. The bottoms being ready shaped for immediate use, save the time and trouble of having to form the bottom and corners before filling. Guaranteed to be Superior to any other Bag in the market. Send for Samples of the "STANDARD'S CHALLENGE BAG."

LOBDELL CAR WHEEL COMPANY

Wilmington, Del., U. S. A.,

MANUFACTURERS OF

CHILLED * ROLLS

For Paper Machines, RUBBER, BRASS, COPPER, FLOUR, OIL AND INK MILLS.

Calenders Furnished Complete, With Plain or Friction Clutch, Driving Pulley or Bevel Gearing, Journal Boxes or Side Pieces, Shafts, Levers, Weights, Outboard & Inboard Stands, &c.

ROLLS SUPPLIED,

Finished or Turned for Grinding. Rolls Bored for Steam or Cast Hollow. Rolls of all Kinds Reground.

WE RECEIVED THE HIGHEST AWARD FOR

CHILLED CAST-IRON ROLLS

— AT THE — Centennial Exposition in Philadelphia, 1876. Paris Exposition, 1878. Internat'l Cotton Exposition, Atlanta, Ga., 1881.

As we cast all our own Rolls, as well as finish them, we have absolute control of their manufacture from the beginning, and can guarantee them to be

UNEXCELLED IN HARDNESS AND FINISH, and equal in every respect to any other made.

GRESSMAN'S IMPROVED RAG ENGINE

With Geared Lighter, for raising both ends of the Roll-Shaft alike.

THE roll in this Engine has angular knives or fly bars, whereby the stock is more effectively and rapidly acted upon, making more regular and even stuff. This improvement is in use in a number of leading mills.

For further information, address

GEO. W. CRESSMAN, Barren Hill, Montgomery County, Pa.



A. & F. BROWN,

No. 43 Park Place, NEW YORK.

WORKS: 57, 59 & 61 Lewis Street; 60, 62, 64 & 66 Cannon Street.



PULLEYS, SHAFTING, HANGERS, A SPECIALTY. F. BROWN'S Patent Friction Clutch. BEST IN THE WORLD.



THOMPSON & CAMPBELL,

(Successors to KREIDER, CAMPBELL & Co.)

1030 Germantown Ave., Philadelphia, Pa.,

W. H. RUSSELL'S SAND WASHER.

An Improvement in Washing Engines.

MACHINISTS and MILLWRIGHTS.

MANUFACTURERS OF Beating and Washing Engines, Pumps, Rag-Dusters and Paper Mill Work in general. MAKERS OF Improved Cylinder and Fourdrinier Machines.

MILLWRIGHT WORK A SPECIALTY.

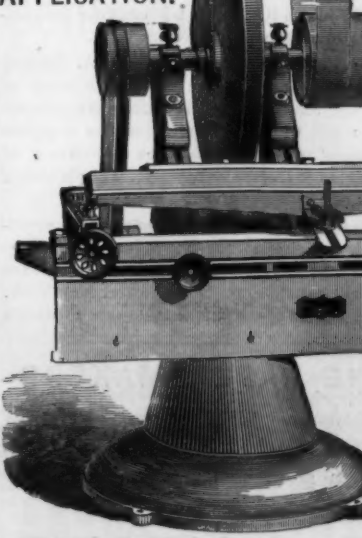
CATALOGUE —ON— APPLICATION.

UNION STONE CO.

38 & 40 Hawley St. BOSTON, MASS.

Automatic Knife Grinder,

FOR ALL KINDS OF LONG KNIVES.



THIS MACHINE SOON pays for itself in the labor it saves. It will grind a knife in less time than on a grindstone, and with a perfectly straight edge, in itself a sufficient reason for purchasing the machine, to say nothing of the economy.

UNION EMERY WHEEL

For Grinding Wood for Manufacturing Wood Pulp.

Wheels Made to Order, and Castings Filled. SATISFACTION GUARANTEED.



CURTIS PRESSURE REGULATOR,

For STEAM, WATER And AIR.

Write for Circular.

— MANUFACTURED BY —

CURTIS REGULATOR COMPANY, 65 Beverly Street, Boston, Mass.

CURTIS RETURN STEAM TRAP,

For returning steam, condensed under pressure, automatically to the Boiler, and without loss of heat.

— MANUFACTURED BY —

CURTIS REGULATOR COMPANY, 65 Beverly Street, Boston, Mass.

GENERAL AGENCIES: 100 Liberty St., New York. 204 Lake St., Chicago. 14 N. 7th St., Philadelphia. 707 Market St., St. Louis. 49 Holiday St., Baltimore. 745 Craig St., Montreal. 24 Sixth St., Pittsburgh.



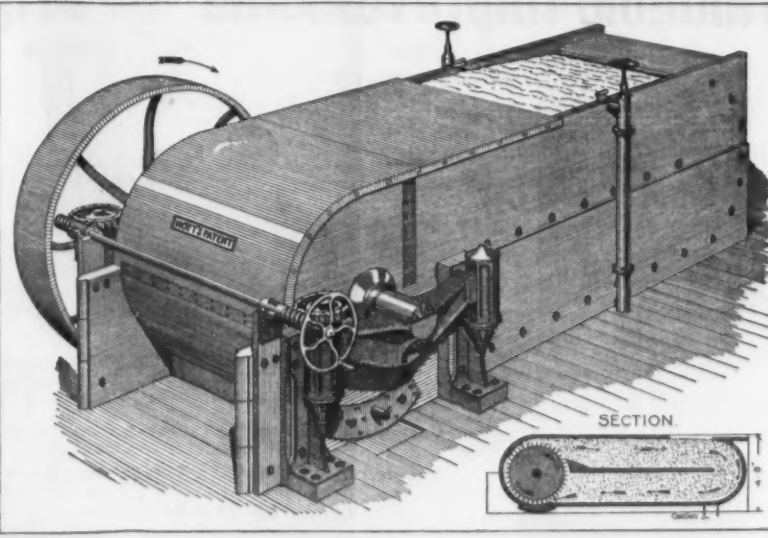
The LANE & BODLEY CO'S

HIGH SPEED BALANCED CENTER CRANK

STEAM ENGINES.

A most complete and durable engine, fully equal to the demands of the times for high speed and continuous service. Sizes, 7-in., 8-in., 9-in., 10-in., 12-in., and 14-in. cylinders. Address THE LANE & BODLEY CO., Cincinnati, O.

HOYT'S PATENT BEATING ENGINE.



FOR PARTICULARS ADDRESS **JOHN HOYT & CO., Manchester, N. H.**

Changes, Removals and New Firms.

Freeman M. Cookingham, stationer, Humphrey, Neb., has sold out.
 F. Lidiak, editor and publisher of the *Slovan*, Lagrange, Tex., has sold out.
 The Mutual News Company, Limited, Pittsburgh, Pa., has been dissolved.
 G. C. Kerkow, publisher, Fremont, Neb., has sold out to Charles Schaffer.
 Wilson & Forbes, printers, San Bernardino, Cal., have dissolved partnership.
 The Michigan Paper Company, East Saginaw, Mich., has resumed business.
 R. T. Robinett, publisher, Chepultepec, Ala., has sold out to Dayle & Hanna.
 James Barrington, bookseller, &c., Wabash, Ind., has sold out to J. E. McHenry.
 C. R. Whidden, publisher of the *Eastport Standard*, Eastport, Me., has sold out.
 Deed H. Meyer & Brother, publishers of the *Albany News*, Albany, N. Y., have sold out.
 Edgar & Roberts, publishers of the *Republican Examiner*, Jerseyville, Ill., have sold out.
 The Rapid City (Winnipeg) *Standard* has been purchased by James Weidman, Winnipeg.
 Raper & Wolf, publishers of the *Scioto Gazette*, Chillicothe, O., are advertising to sell out.
 J. M. Sherwood has retired from the firm of Rogers & Sherwood, printers, New York City.
 N. H. Cruce, publisher of the *Democrat*, El Dorado Springs, Mo., has sold out to H. S. Swan.
 Peters' Music Company, St. Louis, Mo., has been incorporated with a capital stock of \$2,000.
 The proprietor of the *Loveland Reporter*, Loveland, Col., has sold out to Little & Seibert.
 The *Sun* Publishing Company, San Diego, Cal., has sold out to Warren Wilson, formerly of San Bernardino.
 Power & Dawson, engravers, &c., Montreal, Que., has dissolved partnership. George W. Dawson continues alone.
 Burke & Saule, publishers of the *Daily Capital*, Jamestown, Dak., have been succeeded by William H. Burke.
 Hall & Ellis, publishers, Tekamah, Neb.,

have dissolved partnership. George P. Hall succeeds to the business.
 Articles of incorporation have been filed by the Justice Co-operative Printing and Publishing Company, Burlington, Ia.
 Cadogan & Gardner, bookbinders and printers, Quincy, Ill., have sold out to W. H. Cadogan and Charles B. Hatcher.
 Lowenthal Brothers, paper-stock dealers, 25 Bridge street, New York, will remove to 14 Stone street on or before May 1.
 Wilkins & Adey, booksellers and stationers, Houston, Tex., have dissolved partnership. E. A. Adey continues the business.
 Brooks & Menefee, booksellers and stationers, Warrensburg, Mo., have dissolved partnership. John T. Brooks continues the business.
 C. E. Barrett has withdrawn from the firm of printers doing business under the name of the *Sedalia Republican Printing Company*, Sedalia, Mo.
 Smith & Hoekley, publishers of the *Gazette*, Philadelphia, Pa., have dissolved partnership. The business will be continued by Henry Smith.
 Averill, Russell & Carpenter, wholesale paper dealers, St. Paul, Minn., have dissolved partnership, Russell retiring. The firm-style will remain unchanged.
 John F. Diemer, document-box manufacturer, who was burned out by the fire at 66 and 68 Duane street, is now located at 64 Duane street, New York.
 The association known as the American Biographical Publishing Company, Philadelphia, Pa., has been dissolved. Sol. Foster and Charles R. Deacon will continue the business, making use of the same style.
 J. Charles O'Brien and John A. Dupree, lately manager of the New York office of Train, Smith & Co., have formed a partnership and will carry on a business in paper-makers' supplies under the firm-name of O'Brien & Dupree at room 30, Temple Court, 5 and 7 Beekman street.
 Henry de Maziere has transferred his wood-pulp business to the Norwegian Wood Pulp Company, which has offices in room 30, Vanderbilt Building, 132 Nassau street, New York. The officers of the new company are Frederick

Bertuch, president; Ira L. Beebe, secretary, and John L. McCabe, treasurer.
 The "Cosmos" Fibre Company has been organized, and its officers are: President, C. C. Valentine; first vice-president, Leopold Levy; second vice-president, A. E. Newman; treasurer, Joseph Bierhof; secretary, John L. Lindsay; manager, Anton E. Newman. Its offices will be located in New York.

Manufacturing News.

EASTERN STATES.
 The Fall Mountain Paper Company, Below's Falls, Vt., is going to put in a new machine, made with some special features from new patterns by Osgood & Barker.

MIDDLE STATES.
 The Glen's Falls Paper Mill Company, Glen's Falls, N. Y., is going to put machinery into its mill for the purpose of making wood fibre by the Pond process.

SOUTHERN STATES.
 The Bremaker-Moore Paper Company, Louisville, Ky., is putting in machinery for the manufacture of chemical fibre.

Personals.

J. Fred. Ackerman, of Perkins, Goodwin & Co., was elected major of the Thirteenth Regiment, N. G., S. N. Y., on Monday evening last.
 Ira L. Beebe has removed to room 30, Vanderbilt building, where he is now located as the secretary of the Norwegian Wood Pulp Company, of which Fred. Bertuch is president and John L. McCabe is treasurer.
 Leon Gottheil, representing Edmond Lansenbergh & Co., of Ghent, Belgium and Rouen, France; Lewy & Such, Berlin, Germany, and Bendix Lewy, Konigsberg, Germany, which firms do a rag-packing business of about 27,000 tons per annum, is now in New York, with headquarters at Perkins, Goodwin & Co.
In Town.
 Dwight Post, R.N., Fairfield, Mass.; John Clark, Holyoke, Mass.; C. E. Welling, North Bennington, Vt.; R. C. Harris, Harrisville,

N. J.; Oliver Woodworth, New London, Conn.; H. J. Roberts, Birmingham, Conn.; James Symington, Lancaster, Pa.; W. H. Howes, Lockport Paper Company, Lockport, N. Y.; E. R. Solliday, Lambertville, N. J.; Wyman Flint, Bellows Falls, N. H., Conn.; H. McGinnis, Bridgeport, Pa.; L. A. Armstrong, Philadelphia, Pa.; H. W. Southworth, Mitineaque, Mass.; J. B. McNamara, Windsor Locks, Conn.; F. H. Parks, Glens Falls, N. Y.; J. H. Derby, Sandy Hill, N. Y.; G. W. Wheelwright, Boston, Mass.; J. N. Mohr, Philadelphia, Pa.; S. S. Stevens, North Hoo-

sick, N. Y.; H. S. Van de Carr, Stockport, N. Y.; W. R. Sheffield, Saugerties, N. Y.; M. Smith of Star Paper Company, Shortsville, N. Y.
 Attention is invited to an advertisement of Miller's Boiler Fluid, which has rapidly gained favor at home as a reliable preparation, and is finding favor throughout the country. It is claimed that steam users will consult their best interests by purchasing from Mr. Miller, who gives personal supervision to the manufacture of his goods in all of its details.

ESTABLISHED 1879.

MILLER'S BOILER FLUID For the Prevention and Removal of Scale and Corrosion of Iron in Steam Boilers. When properly used will not fail to give most satisfactory results. Stands unequalled in every respect, and has an established reputation. A trial will satisfy the most skeptical. It is the cheapest and best in the market. Descriptive Pamphlet free.

WM. B. MILLER, Manufacturer, 220 North Water St., PHILADELPHIA, Pa.

THE "DUC" BUCKET.
 Always First Premium in Competitive Trials.
 Extra Strong and Very Durable. Made of the best Charcoal Iron, Steel, Only one seam. No corners to catch. Runs with least power.
BEST PULP BUCKET MADE.
 PRICES GREATLY REDUCED. 50,000 ON HAND.
 TELEGRAPHIC ORDERS FILLED. Address
IRON-CLAD MFG. CO., 22 Cliff Street, New York.

THE NEW PULSOMETER
 The cheapest, strongest, most simple, compact, durable, effective and economical STEAM PUMP IN THE MARKET, for raising liquids under and up to 100 feet. No Machinery, No Oil, No special Care. Can be worked suspended by a chain. Will pass grit, mud, sand, pulp, etc., without injury to its parts. Needs only a steam pipe from boiler to run it. Price, 600 gallons per hour, \$25; 1,200 do. \$75; 3,600 do. \$100; 6,000 do. \$150; 10,000 do. \$200; 18,000 do. \$225; 25,000 do. \$275; 45,000 do. \$400; 60,000 do. \$500; 120,000 do. \$1,000. Compare this with any other Pump List.
 Write for illustrated descriptive book with testimonials, &c. Mailed free.
PULSOMETER STEAM PUMP CO., 83 John St., New York City, U. S. A.

THE MOORE
 -SYSTEM OF-
FILTRATION.
 High and Low Pressure

FILTERS

THESE FILTERS ARE NOT EQUALED BY ANY others for economy, perfection of filtration, and thoroughness and rapidity in cleansing. They are the only Filter that can be always cleansed without removing the filtering material.

G. H. MOORE:
 ROCHESTER, N. Y., October 1, 1884.
 DEAR SIR—We have been running eight of your Filters for supplying our Paper Mills in this city, using the water of the Genesee River, and we are glad to say that they do their work in the most satisfactory manner. Their capacity will exceed half a million gallons per day of twenty-four hours. We like the system of cleansing adopted by you in your Filters, and consider it the best feature of it.
 ROCHESTER PAPER CO.
 By A. M. HASTINGS, Sup't.

OTHER REFERENCES FURNISHED IF DESIRED.
GUARANTEED SUPERIOR TO ALL OTHERS,
 And to operate satisfactorily where others cannot.
A PUBLIC COMPARATIVE TEST INVITED WITH ANY OTHER FILTER.

Will contract to furnish any required quantity of Filtered Water. Address
G. H. MOORE,
 NORWICH, CONN.

SEE WHAT THE PAPER MAKERS SAY OF THE
Crocker Standard Filtering Machines,
 AFTER A YEAR'S USE.

AUGUSTINE MILLS, WILMINGTON, DEL., January 15, 1885.
 J. A. CROCKER, Esq., Boston, Mass.:
 Dear Sir—After ONE YEAR'S use of the two Crocker Standard Filtering Machines, now at work in this mill, we can say we are well pleased with them, and can heartily recommend the same to any one needing a Filter, both for the thorough manner in which it cleanses the water and the ease and quickness with which it can be cleaned and put to work again.
 Yours truly,
 THE JESSUP & MOORE PAPER CO.,
 Per D. LINDSAY, Sup't.

S. D. WARREN & Co., Proprietors, Boston. JOHN E. WARREN, Agent.
 CUMBERLAND & PRESUMSCOT MILLS,
 CUMBERLAND MILLS, MAINE, February 5, 1885.

MR. J. A. CROCKER:
 Dear Sir—This will certify that we have had ten of the Crocker Standard Filtering Machines in use in the mills owned by S. D. Warren & Co., at this place; some of them for more than a year, and find them effective in their operation and easily cleansed; and cheerfully recommend them to any one needing pure water for manufacturing purposes.
 Respectfully,
 JOHN E. WARREN, Agent.

JAMES A. CROCKER, Agent, Care of LOCKWOOD MANUFACTURING CO., 73 to 79 Summer St., East Boston, Mass., U. S. A.

SEND FOR ADDITIONAL TESTIMONIALS AND CIRCULARS.

Valuable Improvements in the Brightman Engines.



Guaranteed superior to all others for Beating and Refining all kinds of Paper Stock.
 Manufactured and sold by the Cleveland Paper Company, to whom all orders should be addressed.
 Send for Circular.
CLEVELAND PAPER CO., 128 ST. CLAIR STREET, CLEVELAND, Ohio.

STOUT, MILLS & TEMPLE,

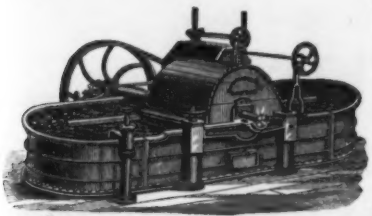
DAYTON, OHIO,

MANUFACTURERS OF

RAG ENGINES

For all classes of Paper.

We are making a specialty of Cast-Iron Tub Engines, which are in great favor among Paper Makers. They are made strong, are well proportioned, and guaranteed to turn well.



PERFORATED SHEET METALS.

For Mining and Concentrating Works, Coal, Stone and Ore Screens, Gas and Water Works.



For Paper, Woollen, Oil and Flour Mills, Filters, Brushes, Ventilators, &c.

HARRINGTON & KING PERFORATING CO.

Perforated Sheet Metals.

MILLING & MINING MACHINERY

For Mills, Elevators, Warehouses, and all kinds of GRAIN-CLEANING MACHINERY.

PAPER MILL WORK A SPECIALTY.

PERFORATED IRON, COPPER AND BRASS for Vats and Drainer-Bottoms, Washers, Pulp Screens, False Bottoms, Stock Boilers, both Rotary and Stationary; Sand Traps, Button Catchers, Suction-Box Covers, Shower Pipes, &c., &c. Iron, Steel, Copper, Brass and Zinc punched any size and thickness. Write for Prices, &c.

THE HARRINGTON & KING PERFORATING CO.,

No. 51 So. Jefferson Street, CHICAGO. — No. 100 Beekman Street, NEW YORK.

GEO. S. BARTON, Treas. CHAS. S. BARTON, Pres. LEWIS C. STONE, Manager.

RICE, BARTON & FALES MACHINE AND IRON CO.

(At Old Stand of Rice, Barton & Co.)

WORCESTER, MASS..

—MANUFACTURERS OF—

PAPER MACHINERY

OF EVERY DESIRABLE VARIETY,

Iron and Brass Castings, Chilled Iron and Paper Calender Rolls, Rag Engines, Rag Cutters, Steam Pressure Regulators, &c.

HYDRAULIC PRESSES, FROM 5 TO 14 INCH PISTON.

SMITH, WINCHESTER & CO.,

SOUTH WINDHAM, CONN.,

—MANUFACTURERS OF—

PAPER MACHINERY,

Consisting of Fourdrinier and Cylinder Machines, Washing and Beating Engines, Air-Drying Machinery for Drying Sized Papers.

SOLE MANUFACTURERS of the Jordan Patent Beating Engine, which has no rival for clearing the stock for fine papers. Chilled Iron and Paper Roll Super Calenders, Plate Calenders, Chilled Stack Calenders, Rag Cutters, Hand and Power Cutting Presses and Stop Cutters; the Hatch Patent Stop Cutter, the only Cutter that can be regulated to cut between water marks of writing papers. Screens, Brass and Nickel Plated, the latter warranted to wear twice as long as brass. Bed Plates, Roll Bars, Fan and Plunger Pumps. Also, Gun Metal Covered Rolls, for Size and Press Rolls; Stevenson Water Wheels, Shafting and Mill Gearing generally.

WM. PICKHARDT & KUTTROFF,

98 Liberty Street, New York.

BRANCHES AT BOSTON AND PHILADELPHIA.

—IMPORTERS OF—

Aniline Colors, Carmine, Pulp Colors, Eagle Brand Ultramarines, N. C. F. Concentrated Alum.

ESTABLISHED 1864.

WM. A. HARRIS,

MANUFACTURER OF

Harris-Corliss Steam Engines,

WITH HARRIS' PATENT IMPROVEMENTS.

HEAVY and LIGHT IRON CASTINGS, PROVIDENCE, R. I.

Send for copy Engineers' and Steam Users' Manual, by JOHN W. HILL, M. E. Price \$1.25.

THE CAMERON STEAM PUMP.

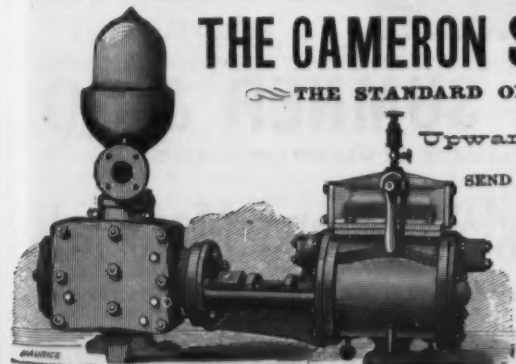
THE STANDARD OF EXCELLENCE.

Upward of 30,000 in Use.

SEND FOR ILLUSTRATED CATALOGUE.

THE A. S. CAMERON
Steam Pump Works,

433 East 23d Street,
NEW YORK.



ALWAYS GIVES THE UTMOST SATISFACTION.

MAIN BELTING COMPANY,

MANUFACTURERS OF

THE LEVIATHAN COTTON BELTING,

Unsurpassed for Strength, Durability and Cheapness.

Made to any Length, Width and Strength.

MAIN DRIVING BELTS,

Guaranteed to Run Straight, Even Throughout. No Cross Joints, Unaffected by Damp, Clings well to the Pulley, Has no Equal; in fact, is THE BELT.

MAIN BELTING COMPANY,

S. W. cor. Ninth and Reed Sts., Philadelphia, and 248 East Randolph St., Chicago.

F. GRAY, President. H. C. NELLIS, Vice-President. W. C. GRAY, Secretary and Treasurer.

PIQUA WOOLEN MILLS.

THE F. GRAY CO.,

MANUFACTURERS OF

FOURDRINIER and CYLINDER

FELTS,

Press Felts and Jackets for all kinds of Paper.

Special attention is invited to our FOURDRINIER FELTS for FAST RUNNING ON NEWS, which are unsurpassed.

ALSO, TO OUR

"EUREKA FELT,"

For Fast Running on Cylinder Machines, which we have perfected within the last few months, and which is rapidly gaining favor with Paper Makers wherever it is used.

EXTRA HEAVY CANVAS DRYER FELTS, all widths, cut to any length, at Manufacturers' Prices. WE WARRANT EVERY FELT to work well, and if it does not, it can be returned.

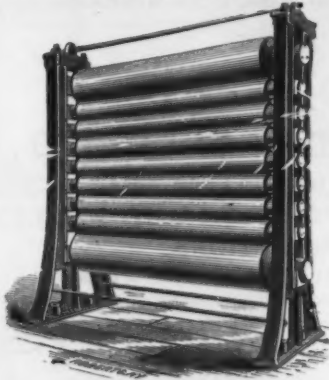
We also manufacture Blankets, Flannels, Stocking Yarns of all Colors, and Men's Heavy Wool Socks. Also, an Extra Heavy 6-4 Scarlet and White Flannel for underwear, which we guarantee not to shrink. All the above we offer to Paper Makers at the Lowest Wholesale Prices, in quantities to suit.

Very respectfully,

THE F. GRAY CO., Piqua, Ohio.

THE J. MORTON POOLE CO.,

Wilmington, Delaware.



MANUFACTURE

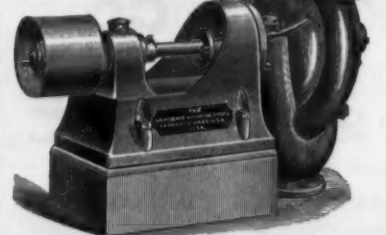
Chilled Rolls

GROUND BY THEIR PATENT PROCESS.

IMPROVED CENTRIFUGAL PUMP,

Constructed on the "Gwynne" System.

EFFICIENCY GUARANTEED.



The only Centrifugal Pump built in this country with Double Suction and Balanced Disc. Takes less power per gallon of water raised, than any other centrifugal pump. Built by

LAWRENCE MACHINE SHOP, Lawrence, Mass., U. S. A. BOSTON SALES OFFICE WITH HILL, CLARKE & CO., No. 36 Oliver Street.

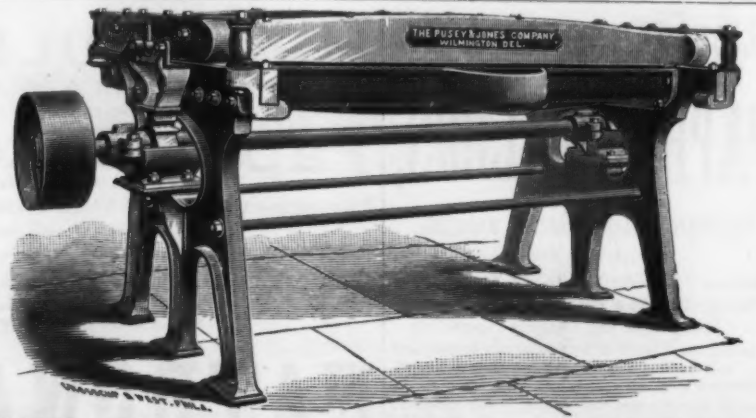
C. A. CHENEY,

(Successor to BUTTERWORTH & GRIFFITHS.)

—IMPORTER OF—

Paper Stock and Sizing

58 FEDERAL ST., BOSTON.



THE PUSEY & JONES COMPANY,

Wilmington, Delaware,

MANUFACTURE

PAPER MILL MACHINERY,

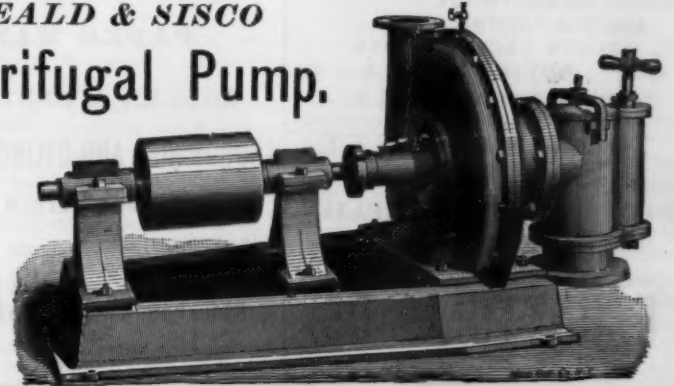
FOURDRINIER AND CYLINDER MACHINES,

GOULE'S PATENT SCREENS, EXPANDING PULLEYS, RAG ENGINES, ROTARY BOILERS, DIGESTERS, STEAM ENGINES, BOILERS, SHAFTING.

THE OLD RELIABLE

HEALD & SISCO

Centrifugal Pump.



Specially adapted to the needs of Paper Makers.

A greater number of these Pumps in use than of all other Centrifugal Pumps combined.

CAUTION!—The term "OLD RELIABLE," as applied to pumps, was adopted by us sixteen years ago. Be not deceived by other manufacturers who appropriate our time-honored motto.

Send for latest pamphlet of 78 pages, containing hundreds of testimonials, to

HEALD & MORRIS (formerly Heald & Sisco Co.) Baldwinsville, N. Y., U. S. A.

FARREL FOUNDRY AND MACHINE CO.,

ANSONIA, CONN.,

The Largest Makers in the world of

CHILLED ROLLS,

FOR PAPER,

ALSO,

CHILLED AND DRY SAND ROLLS, FOR ALL OTHER PURPOSES.



CHILLED ROLLS.

All our Rolls are ground by the Poole Grinder, which guarantees their perfectness and finish. Old Rolls Reground at Short Notice.

O'BENCHAIN'S IMPROVED

Little Giant Turbine Water Wheel

IS THE MOST PRACTICAL AND DURABLE WHEEL MADE, AND IS THE BEST PARTIAL GATE WHEEL ON THE MARKET.

Capacity Increased and Prices Largely Reduced.

We sell Wheels for less money per Horse-Power than any other manufacturer.

SEND FOR NEW ILLUSTRATED WHEEL BOOK.

—MANUFACTURED BY—

KNOWLTON & DOLAN, LOGANSPORT, IND.



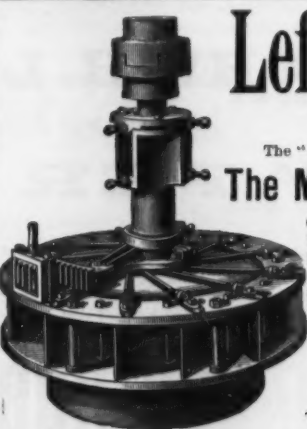
Leffel's Water Wheel.

Prices Reduced.

The "OLD RELIABLE" with Important Improvements, making it The Most Perfect Turbine Now in Use,

Comprising the LARGEST and the SMALLEST Wheels, under both the HIGHEST and LOWEST Head in this country. Our New Illustrated Book sent free to those owning water-power. Write us for NEW PRICES before buying elsewhere. New Shops and New Machinery are provided for making this wheel. Address,

James Leffel & Co., SPRINGFIELD, OHIO, And 110 Liberty St., New York City.



YORK MANUFACTURING CO.

—BUILDERS OF—

STEAM ENGINES,

From 2 to 150 Horse-Power.

Turbine Water-Wheels, Mill Machinery, Shafting, Pulleys and Hangers. Paper Mill Machinery a Specialty.

YORK, PA.



RICE, KENDALL & Co.,
No. 91 Federal St., Boston,
PAPER DEALERS,

—AND—
Importers of Manufacturers' Materials.
—AGENTS OF THE—
American "Excelsior" Felts and Crane's Bond Papers; Tilleston & Hollingsworth's Chromo, Lithographic and Superfine Papers.
Having the Agency of several of the largest and best Mills in New England, we are able to supply PUBLISHERS with Fine and Superfine Book Papers of every size and weight, in any quantity, and at short notice.

W. A. BINGHAM, Pres. R. R. CORNELL, Treas.
D. D. TOMPKINS, Vice-Pres. THEO. H. WARD, Sec.

CORNELL, BINGHAM & Co.
PAPER
178 FULTON ST., NEW YORK.

ALWAYS ON HAND (OR TO ORDER) AT MANUFACTURERS' PRICES!

STRAW WRAPPING,
MANILLA (all Grades),
GRAY RAG WRAPPING,
SHEATHING, &c., &c.
BOOK, NEWS, TISSUE
and **TEA PAPERS,**
FLOUR SACKS, TWINES,
BUTTER DISHES, &c., &c.
UNION STANDARD SQUARE BAGS.

THOMAS BARRETT,
78 Duane Street, New York.
PAPER MAKERS' SUPPLIES.

Also Dealer in Manilla, Rops, Wrapping, Book and News. Job Lots bought for Cash.

E. HATTON & CO.
IMPORTERS OF

German Rags

—AND—
PAPER STOCK.
27 SOUTH STREET, NEW YORK.

EDW. H. HASKELL,
Hemp, Jute, Sisal and Manilla

TWINES
For Paper, Pulp and Straw-Board Makers.
24 FEDERAL STREET, BOSTON, MASS

Wood Pulp,
WET or DRY,
Delivered in any part of the country, in quantities to suit.

IRA L. BEEBE,
No. 132 Nassau Street, New York.

CHARLES COHN & BAEDER,
Hamburg, Germany. IMPORTERS OF New York, 353 Pearl St.

Rags and Paper Stock
—OF BEST—

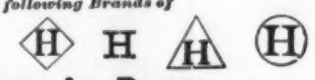
HAMBURG PACKINGS,
Russian and German Rags.

SERGEANT BROS.,
132 Nassau St., New York, P.O. Box 3709.
HAVE ALWAYS ON HAND AND TO ARRIVE

FOREIGN RAGS,
JUTE AND PAPER STOCK,
CHEMICALS, CLAYS,
ANIMAL AND ROSIN SIZE.
ALSO AGENTS FOR
The Swan Brand Silesian White and H. & S. Brands Southern Clays.

H. C. HULBERT & Co.,
58 BEEKMAN ST., NEW YORK.

—Importers of and Dealers in—
Paper Makers' Supplies.

SOLE AGENTS FOR OVER TWENTY YEARS FOR THE SALE OF
"Stubbins Vale Mills" FELTS, PEARL HARDENING and "Berger" ULTRAMARINE
Also Sole Agents for the following Brands of
ALUM: 
Extra Heavy Canvas for Dryers.

NATRONA POROUS ALUM,

FOR PAPER MAKERS' USE.
FREE FROM IRON AND FROM EXCESS OF ACID.
Two pounds of it will size as much Paper as three and one-fourth pounds of Lump or Ground Alum, and is 12 per cent. stronger in alumina than any other Alum offered.
PENNSYLVANIA SALT MFG. CO.,
140 South Delaware Avenue, Philadelphia. 391 North Second Street, St. Louis, Mo.
Agents: W. M. ELLICOTT & SONS, Baltimore; MOREY & CO., Boston; E. L. EMBREE, New York.

PERKINS, GOODWIN & CO.,
No. 84 Duane Street, New York,
Commission Paper Warehouse.

—IMPORTERS AND DEALERS IN—
PAPER MANUFACTURERS' SUPPLIES.
Sole Eastern Agents for
SHULER & BENNINGHOFFEN, OF HAMILTON OHIO
—THE WELL KNOWN MANUFACTURERS OF—
FOURDRINIER AND CYLINDER WET FELTS, PRESS FELTS AND JACKETS.
Pronounced by many equal to the best Foreign Felts, at a much lower price.
EXTRA HEAVY CANVAS FOR DRYERS.

EXTRA CONCENTRATED PEARL ALUM FOR PAPER MAKERS' USE.

The Richest in Sulphate of Alumina, and 20 per cent. Stronger than any other Alum in the Market.
2 lbs. Pearl Alum will do as much Sizing as 3 1/4 lbs. Potash or Ammonia Alum.
CONTAINS NO FREE ACID.
Chemical Laboratory, University of Pennsylvania.
Messrs. HARRISON BROS. & CO. WEST PHILADELPHIA, April 18th, 1879.
Gentlemen:—The sample marked "EXTRA CONCENTRATED PEARL ALUM," H. B. & Co. April 17th, 1879, which I have examined for alumina as requested, contains 65.96 per cent. of neutral sulphate of alumina.
Yours very truly, (Signed,) F. A. GENTH.

HARRISON BROS. & CO.
Manufacturers of Extra Concentrated PEARL ALUM, Lump and Ground Alum, ALUMINOUS CAKE, Oil of Vitriol, White Lead, Colors for Paper Makers and Painters, Sugar of Lead and other Chemicals.
Office: 35th STREET & GRAY'S FERRY ROAD and 105 SO. FRONT STREET, Philadelphia, 117 FULTON STREET, New York. Agents at Boston, E. & F. KING & CO.

—ESTABLISHED 1853.—
J. W. LYON & CO.,
RAG WAREHOUSE,
44 & 46 Duane Street, (P. O. Box 2230,) New York.

FOREIGN AND DOMESTIC PAPER STOCK AND WOOLEN RAGS OF ALL DESCRIPTIONS.
Cash paid for all kinds of WOOLEN RAGS and PAPER STOCK in large or small lots.

PIPE COVERINGS.


Fire-Proof Non-Conducting Covering
—FOR—
STEAM PIPES, BOILERS,
AND ALL HOT SURFACES.
MADE IN SECTIONS THREE FEET LONG.
EASY TO APPLY. LIGHT AND CHEAP.
ASBESTOS MATERIALS. FIBRE, MILLBOARD, PACKING AND CEMENT.
ADDRESS CHALMERS SPENCE COMPANY, 419 & 421 Eighth Street, New York.

JOHN H. LYON & CO.,
Importers and Dealers in all Grades of
PAPER STOCK,

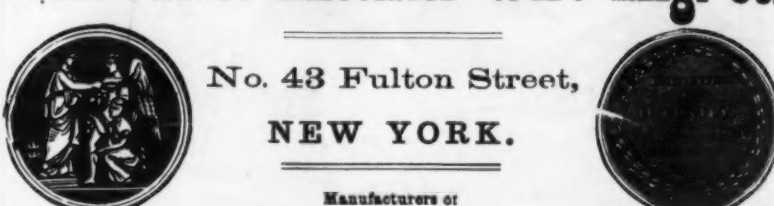
And Dealers and Packers of all Grades of
WOOLENS FOR SHODDY AND FLOCK PURPOSES,
OFFICE 10 & 12 READE STREET,
WAREHOUSE 38 PARK STREET, NEW YORK

BULKLEY, DUNTON & CO.,
No. 74 John Street, New York,

"EXCELSIOR" FELTS PIECE FELTING and JACKETING.

For Economy, Durability and Good Results they are Unequaled. Long Established and Well Known. A Trial is Solicited from Manufacturers not already Using them.
EXTRA HEAVY CANVAS DRYERS.
Satisfaction Guaranteed. Send for Price List.

Wm. Cable Excelsior Wire Mfg. Co.


No. 43 Fulton Street,
NEW YORK.
Manufacturers of

Superior Fourdrinier Wires. Brass, Copper and Iron Wire.
Cylinder Wires. Dandy Rolls,
Brass, Copper and Iron Wire. Cylinder Molds.
Cloth of every description. Best Quality of Wire Rope.
Write for Price List.

SELLERS & CO.,
Keystone Wire Works, 1539 Race St., Philadelphia.
SOLE MANUFACTURERS OF

Whitehead's Patent Dandy Roll.



ALSO MANUFACTURE
FOURDRINIER and CYLINDER WIRES
CYLINDERS AND DANDY ROLLS MADE AND REPAIRED.

Lettering and Designing on Dandy Rolls executed Neatly and Promptly.
DEALERS IN ALL KINDS OF PAPER MILL SUPPLIES.

IMPORTANT TO PAPER MANUFACTURERS!
We have now running at our works one of
POOLE'S PATENT ROLL GRINDERS,

and are prepared promptly to regrind Old Rolls, soft as well as chilled. Manufacturers can rely upon having their rolls ground perfectly, and at a material saving of freight, by applying to

THE TOWNSEND FURNACE AND MACHINE SHOP,
RUFUS K. TOWNSEND, Proprietor, ALBANY, N. Y.

ESTABLISHED 1826.
LEWY BROTHERS,
German and Russian Linen Rag Packers.

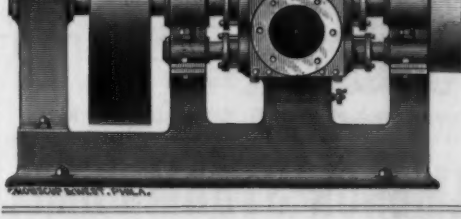
BERLIN and KOENIGSBERG, Germany.
New York Office: No. 12 BROADWAY.

T. P. SHERBORNE, JR. J. B. WILSON.
STAR CLAY COMP'Y

OFFICE: No. 224 South Third Street, PHILADELPHIA, PA.
WORKS: Mertztown, Berks County, PENNSYLVANIA.

MINERS AND MANUFACTURERS OF WHITE CHINA CLAY,
Especially adapted to Paper Makers' use.

WILBRAHAM ROTARY PISTON PUMP.


The Cheapest, Best and Most Economical Pump made.
ADOPTED BY MANY PAPER MILLS
WILBRAHAM BROS.,
3320 Frankford Avenue, PHILADELPHIA, PA.

WATSON, SUMNER & CO.,
Successors to GEO. WATSON, Jr., and WARREN & CO., of New York.
—IMPORTERS OF—

Paper-Makers' Stock and Materials,
Whitehead's Feltings, Aluminous Cake, Curtius' Ultramarine.

Dealers in FOREIGN and DOMESTIC RAGS.
—Nos. 63 & 65 BEEKMAN STREET, NEW YORK.—

PATENT RIVETED MONARCH RUBBER BELTING

WARRANTED ESPECIALLY FOR USE IN
PAPER MILLS, SAW MILLS, and on THRESHING MACHINES.
The piles of our Monarch Belting are united by longitudinal rows of cotton cord stays or flexible rivets, which hold the piles firmly together under the greatest strains. Manufactured only by
THE GUTTA PERCHA AND RUBBER MANUFACTURING CO.,
New York, Chicago, San Francisco, Toronto.
DECKEL STRAPS and RUBBER COVERED ROLLS A SPECIALTY.

